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THE ECONOMIC JOURNAL

MARCH, 1935

SOME NOTES ON IDEAL OUTPUT

I

THIS article is an exercise in a branch of the economics of welfare. It is based on Professor Pigou's treatment of the manner in which a redistribution of resources can raise the national dividend above the level attained under conditions of *laissez-faire*.[1] The earlier portion is devoted to the question of external economies and diseconomies, the latter portion to the question of imperfect competition.

I shall follow Professor Pigou, in the *Economics of Welfare*, in assuming that factors of production are always kept fully employed. It is unnecessary to-day to point out that all forms of the "diversion argument" break down at a time when unemployment prevails.[2] The precise meaning of full employment is less clear. That the existence of uncultivated land does not invalidate the methods and conclusions of the *Economics of Welfare* is sufficiently obvious. That the existence of unemployed labour upsets all these arguments is equally obvious. But in what way labour differs from land is not completely apparent. That, however, is a matter for separate discussion. We shall throughout assume full employment, without inquiring further into the meaning of such an assumption.

We shall assume, furthermore, that money can be employed as a measure of utility, the price of any commodity denoting its marginal utility to the consuming community and the price of any factor of production the marginal disutility involved to those

[1] The methods employed are those of Professor Pigou. For the extension of the subject-matter I have drawn largely on the teachings of Mr. Shove (a small portion of which is to be found in his article on "Varying Costs and Marginal Net Products," ECONOMIC JOURNAL, June 1928, pp. 258 ff., though the further elaboration of the matter, deferred for "another occasion" (*ibid.*, p. 265), has never yet been published), and on Mrs. Robinson's chapter on "A World of Monopolies" (*Economics of Imperfect Competition*, Chap. 27), while I have also taken much from Mrs. Robinson's reply to Mr. Fraser, *Review of Economic Studies*, February 1934, pp. 137 ff.

[2] *Cf.* A. C. Pigou, in a letter to *The Times*, June 6, 1930.

who supply its service. In other words, our discussion will be conducted as though income were equally distributed. In fact income is not equally distributed, and the marginal utility of money is different to different individuals. The considerations to which this inequality gives rise, and the types of interference which it justifies, belong to a separate compartment of the economics of welfare. With that compartment we shall not be concerned in this discussion, which is to be conducted as though all individuals were alike and the marginal utility of money were the same to everybody—or, to be more precise and less stringent, to the *average* [1] consumer of every commodity. It is only, I think, in this sense that it is possible to appreciate Professor Pigou's distinction between the *size* of the national dividend and its *distribution*.[2] There is no such thing as a *physical dividend* which we can talk of maximising. Any method of weighting the various constituents of the national dividend must have recourse to money as a measure of price, and by implication of utility. What is meant by maximising the *size* of the national dividend without reference to its distribution is maximising the satisfaction which *would be* obtained *if* " differences in the marginal utility of money to different people " [3] did not exist.[4]

Even on that understanding, an increase in the size of the national dividend is not necessarily tantamount to an increase in economic welfare. As Professor Pigou points out, if " the whole

[1] This is no crude mathematical average. It must pay regard to the economic importance of commodities as well as to the physical amounts consumed.

[2] *Economics of Welfare*, p. 123. Unless otherwise stated, references to the *Economics of Welfare* are to the fourth edition (1932).

[3] *Ibid.*, p. 802.

[4] Many will share Mr. Dobb's suspicion " that to strive after such a maximum is very like looking in a dark room for a black hat that may be entirely subjective, after all " (ECONOMIC JOURNAL, December 1933, p. 594; see also, in particular, *ibid.*, p. 591). Mr. Lerner is, of course, mistaken in supposing that " there can be no doubt about the objective nature of the maximum " (*Review of Economic Studies*, October 1934, p. 57). " If the marginal productivity," he says, " of different factors do not bear to each other the same ratio in the production of different commodities, it will be possible, by re-shuffling the factors to produce *more* of some or all of the commodities produced, without producing less of anything or applying more resources or energy to production." That is perfectly true, and important. But the *ratio* of the marginal productivities of factors is by no means the sole consideration. " Too little " of a commodity may be produced with the aid of " too little " of all the factors, combined in such proportions that the ratios of their marginal productivities are the same as in other uses. Mr. Lerner's " objective " standard then breaks down completely. In more ordinary cases it is capable of a strictly limited application, while only in extremely peculiar cases, where the " fault " lies entirely with the proportions of the factors and not at all with their aggregate amount, is the " subjective " element entirely absent.

community was compelled by law to work for eighteen hours a day," the national dividend might be increased, but "it is practically certain that the satisfaction yielded by the extra product would be enormously less than the dissatisfaction caused by the extra labour." [1] For the most part Professor Pigou confines himself to the assumption that "a given quantity of productive resources is being employed," [2] and is thus able, as Mr. Fraser has pointed out,[3] to avoid all difficulty. It will be simplest for the moment to retain Professor Pigou's assumption—that the supply to society of all factors of production is perfectly inelastic in terms of natural units [4]—but it will be dispensed with at a later stage.[5]

To define marginal private product and marginal social product of any factor A in a particular occupation, we imagine the total amount in existence of factor A to be increased by one unit and that additional unit to be employed by one particular firm, X, engaged in this occupation. The total amounts in existence in the form of natural units of all factors other than A are imagined to remain constant and the total of payments made by firm X to all factors other than A is imagined to remain constant. The increase in the value of firm X's output, which results from increasing its employment of factor A by one unit, is called the *marginal private productivity* of factor A to firm X. The increase in the amount of firm X's output is called the *marginal private physical product.* The total increase in the community's output (including the increase in firm X's output) is called the *marginal social physical product.* In general the marginal social (physical) [6] product is not capable of quantitative measurement. It is a hotch-potch, consisting of "the total . . . product of physical things or objective services due to the marginal increment of resources in any given use or place, no matter to whom any part of this product may accrue." [7] But the value of this hotch-potch is a definite thing; each constituent is valued at its market price, and so we get the *value of the marginal social product.* Utility being measured in terms of money, price is

[1] *Economics of Welfare*, p. 85. [2] *Ibid.*, p. 136.

[3] *Review of Economic Studies*, October 1933, p. 50.

[4] Thus we assume the existence of a fixed number of men with very strong lungs, but not a fixed number either of glass-blowers or of trombone-players.

[5] See p. 19 and p. 35 below.

[6] In what follows the word "product" will be taken to mean "physical product" as opposed to "productivity," which is the "value of product."

[7] *Economics of Welfare*, p. 134.

equal to marginal utility, and so the value of the marginal social product is equal to the addition to total satisfaction which results from increasing the total quantity of factor A by one unit and applying that unit to firm X. "Whenever, therefore, the value of the marginal social . . .[1] product of [a factor] is less in any one use than it is in any other, the money measure of satisfaction in the aggregate can be increased by transferring [the factor] from the use where the value of the marginal social product is smaller to the use where it is larger."[2] The amount of a factor in any use will be *ideal* when the value of the marginal social product of each marginal unit (unit situated on the margin of transfer) is the same in that use as in the alternative occupation.[3]

If the increase in the output of firm X has no effect on the efficiency of any given combination of factors outside firm X, the marginal social product is identical with the marginal private product.[4] If the increase in output has a favourable effect on efficiency elsewhere, production is attended by *external economies*. The marginal social product then comprises, in addition to the marginal private product, increments of output produced by firms other than X; and the value of the marginal social product exceeds the value of the marginal private product. In the converse case, where production is attended by *external dis-economies*, the value of the marginal social product falls short of the value of the marginal private product.

[1] See W. L. Valk, *Principles of Wages*, p. 33, referred to by D. H. Robertson, *Economic Fragments*, p. 47, note.

[2] *Economics of Welfare*, p. 136.

[3] It is assumed, with some degree of reason, that in such a situation an infra-marginal unit will have a greater marginal social product in the given occupation than in any other.

[4] This statement is neither entirely obvious nor entirely accurate. In defining the marginal products we have had, for an obvious reason, to postulate that "the total of payments made by firm X to all factors other than A" is to remain constant, *not* that the amount of *each* factor other than A employed by firm X is to remain constant (*cf.* D. H. Robertson, *loc. cit.*, and Joan Robinson, *op. cit.*, p. 237). In general, there will be a diversion of some of these factors away from firm X to other firms, and of other of these factors to firm X from other firms. The marginal social product is therefore *not* identical with the marginal private product. But under conditions of perfect competition, the price of each factor is equal to the value of its marginal private product in the use from or to which it would be diverted. Since the total cost to firm X of all factors other than A remains constant, the *values* of the increments and decrements of the outputs of all other firms, brought about as a result of this diversion, must add up algebraically to zero. It follows that if perfect competition prevails everywhere, the *value* of the marginal social product is equal to the *value* of the marginal private product. That is all that is required to validate the argument of the text. If competition is not perfect, the proposition is not necessarily true. But the discrepancy, which there is no reason for supposing to be large, will not lie consistently in one direction or the other, and will therefore be disregarded.

The nature of the allocation of the external economies (or diseconomies) over the field of industry in not germane to our present purpose—their aggregate amount is all that matters. In one case an increase in a firm's output may lead to considerable economies to the firms in the same industry; in another case the degree of economy may be much smaller, but it may be spread over a far wider field—over a group of industries, over a particular locality, or over all industries. If the aggregate of the induced economies is equal in the two cases, the divergence between the values of the marginal private and social products is the same. The convenience of this method of defining external economies and diseconomies is sufficiently obvious. If the terms were restricted to the economies and diseconomies accruing to other firms *in the same industry*, we should be in danger of overlooking the effects, which must often be more considerable, produced in other industries. Moreover, our definition would depend on our definition of an industry, a matter which must always be somewhat arbitrarily determined, except perhaps in the case of perfect competition (though even there the question is complicated by the existence of joint products and subsidiary firms). It is not with any particular industry that we are at the moment concerned. Our attention is concentrated on the particular firm, and the repercussions of its behaviour on industry as a whole.

II

We begin by assuming that conditions of perfect competition prevail everywhere. Then the price of any unit of a factor is equal to the value of its marginal private product. Each unit of every factor will find its way into that industry where the value of its marginal private product is greatest. Every marginal unit has equal values of marginal private product in the two industries separated by the margin. We have seen that output is ideal when the margin is so situated that the values of marginal social product are equal. It follows that the ideal output of any industry is that which causes the values of the marginal social products of the marginal units of each factor to have the same ratios to the values of their marginal private products as they would in the industries from which they have to be drawn. If, for each factor taken in turn, every firm in every industry is responsible for the same aggregate amount of external economy or diseconomy —so that the ratio of the value of the marginal social product of each factor to the value of its marginal private product is every-

where the same—the output of every industry is ideal. In general we should want to contract those industries where a given increase of output on the part of a single firm gives rise to an aggregate of external economies which falls short in amount of that provided in the industries with which they compete for the use of their factors of production; while we should want to expand those industries which provide more economies than the industries from which they take their factors. On the assumption that every industry competes for its factors with a group of industries which is uncorrelated with it in nature and large in extent, so that it can be regarded as a random sample of industry as a whole, it is desirable to divert factors of production from those industries which are associated with less than the average amount of external economy (per unit increase of employment) to those which are associated with more than the average. This assumption must frequently be very wide of the facts,[1] but it is a convenient one to make in the interests of simplified exposition. We shall retain it on the understanding that any statement which is made with its aid can be retranslated, by an obvious modification, into the more complicated version that we should have arrived at if the assumption had not been adopted. Then "the national dividend would, obviously, be increased by transferring resources from industries where . . . net external economies are small or negative to those where . . . net external economies [are] large."[2] We may arrange all industries in descending order of magnitude in respect to the external economies associated with them (diseconomies being regarded as negative economies). At a certain point, represented by the "average" industry, a line may be drawn. Then all industries above the line have to expand to reach their ideal outputs and all those below the line have to contract, the extent of the socially desirable expansion or contraction varying directly with the distance from the line. The direction and extent of an industry's deviation from the norm in respect to external economies and diseconomies determine the direction and extent to which it is socially desirable to alter its output.[3] It is not the nature of industries in any absolute sense,

[1] Especially if our "industry" is merely a subdivision of what is normally called an industry—for instance, the spinning of one particular count of cotton yarn. In such cases the assumption will lead to particularly absurd conclusions.

[2] G. F. Shove, *loc. cit.*, p. 266. See also F. H. Knight, "Some Fallacies in the Interpretation of Social Cost," *Quarterly Journal of Economics*, August 1924, p. 592, and Joan Robinson, *Review of Economic Studies*, February 1934, p. 140.

[3] The extent, but not the direction, of course depends also on the shapes of its demand and supply curves, which determine how rapidly a change in output will react on the price of the product, and so on the values of the marginal products.

but their idiosyncrasies, which provide a case for interference. If all industries were alike, interference could do no good. In the words of Professor Pigou, "if in all industries the values of marginal social and marginal private net product differed to exactly the same extent, the *optimum* distribution of resources would always be attained, and there would be, on these lines, no case for fiscal interference." [1]

But if external economies, while universal, are milder in some industries than in others, then it would "be possible—at all events in theory—to increase the national dividend by shifting resources from" one group of industries to the other.[2] So long as attention is concentrated on this paragraph from the *Economics of Welfare*, there is no difference in the conclusions suggested in this article from those of Professor Pigou. It is, however, quite clear that there is a complete lack of harmony between this particular paragraph, which first made its appearance in the third (1929) edition,[3] and the rest of Professor Pigou's treatment, which results in the conclusion that "if in any industry the value of the marginal social net product of investment is greater than the value of the marginal private net product, this implies that the output obtained is less than the ideal output: if the value of the marginal social net product is less than the value of the marginal private net product, this implies that the output obtained is greater than the ideal output." [4] In other words, Professor Pigou might be interpreted to be saying, *all* those industries in which there are any positive external economies—no matter how small their amount—it is socially desirable to expand, and it is *only* those industries in which there are actual external diseconomies—not merely an amount of economies which is inferior to the average—that it is socially desirable to contract. The source of the disharmony is easily revealed, and indeed is elucidated by Professor Pigou himself in the course of this same paragraph which is

Mr. Fraser is clearly wrong in suggesting that Professor Pigou's analysis "contains no suggestion that the conditions of demand bear on the point at issue" (*Review of Economic Studies*, October 1933, p. 50, note; *cf. Economics of Welfare*, pp. 803, 804). As an example of the influence of the conditions of supply, it may be noted that while the fact of "scarcity" of factors of production—the fact that the factors of production are not all of them in perfectly elastic supply to the industry—has nothing whatever to do with the question of *whether* it is socially desirable to alter the industry's output, it does affect the *amount* of the alteration, if any, which it is socially most desirable to bring about.

[1] *Economics of Welfare*, p. 225.

[2] *Ibid.*

[3] P. 226.

[4] *Economics of Welfare*, p. 224.

responsible for the disharmony. It has, he explains, been "tacitly assumed that in the main body of industries [the values of the marginal social product and of the marginal private product] are equal, and, therefore, that there is scope for increasing the national dividend by shifting resources between . . . this body of industries" and a particular industry in which "the value of the marginal social net product . . . differs from the value of the marginal private net product." [1] It is assumed, in other words, that external economies and diseconomies are rare phenomena; that in most industries they do not occur, so that it is only with a few exceptional cases that we have to deal. If external economies and diseconomies are sufficiently rare, their average amount is approximately zero.[2] It follows that if external economies are anywhere appreciable, they must necessarily exceed the average, while they will only fall short of the average in the shape of actual external diseconomies. Once this assumption is granted, there ceases to be any conflict between my version of Professor Pigou's conclusions and his own.

The assumption will be found to run through most of the *Economics of Welfare*. It is only if marginal private product and marginal social product are identical in all except a few exceptional cases that it is clear that self-interest, which "will tend to bring about equality in the values of the marginal private net products of resources invested in different ways, . . . will not tend to bring about equality in the values of the marginal social net products except where marginal private net products and marginal social net product are identical." [3]

[1] *Economics of Welfare*, p. 225.

[2] It would also be zero if external economies and diseconomies, taken over the whole field of industry, happened on the average to balance. But clearly this would be an absurd assumption, whereas the assumption in the text represents a highly reasonable approximation.

[3] *Economics of Welfare*, p. 172. *Cf. ibid.*, p. 250. The point is brought out yet more clearly in the following passage from the second edition (1924) (p. 152), which appears in substantially the same form in the first edition (1920) (p. 150) and in *Wealth and Welfare* (1912) (p. 149):—"The value of the marginal social net product, in any selected industry, will exceed or fall short of the value of the marginal social net product yielded in the generality of industries, by the amount by which it exceeds or falls short of the value of the marginal private net product in the selected industry." *Cf.* also the following statement in Appendix III of the first edition (p. 937):—"On the average of 'industries in general,' we may presume that the earnings per unit of productive resources tend to equality with the value of the net product of their marginal increment."

In the chapter on "Increasing and Decreasing Supply Price," the assumption is expressed, in a rather implicit form, by the device of an "archetypal industry." We are told to "imagine that there exists an archetypal industry, in which the values of the marginal private net product and of the marginal social net product of investment are *both* equal to one another and *also* stand at a sort of central

Quite apart from the fact that it is not based on any special assumption as to the rarity of external economies and diseconomies, the method suggested in this article has the further advantage that it does not entail any appeal to the somewhat perplexing distinction between increasing (constant, or decreasing) supply price *from the standpoint of the industry* (or *simpliciter*) and increasing (constant, or decreasing) supply price *from the standpoint of the community.*[1] It may be convenient at this point to summarise the various reasons [2] why there is an absence of anything but a mild degree of correlation between the fact that an industry is producing under conditions of falling supply price and the existence of a case for subsidising its output (and between the

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level representative of industries in general" (p. 213). This must be taken to mean that *in industries in general* the values of the marginal private and social products *are* equal, divergences being rare phenomena, though it is stated in a footnote that "it is not necessary to suppose that this central value is actually attained in any industry; it is rather to be conceived as the level which would be attained under conditions of simple competition in an industry of constant supply price." It would, it might be suggested, be better to say that it is the level which *is* in fact assumed to be attained in most industries under the conditions which actually happen to prevail in the world as we know it. In earlier editions the footnote is concluded with the following words :—" or as the average of the levels which would be attained in all industries under these conditions, if their departures from constant supply price in both directions balanced each other" (third edition, p. 215; with slight modifications in second edition, p. 192, and first edition, p. 189). This phrase would have to be interpreted to mean that, taking the average of industries as a whole, external economies and diseconomies just about balance; *cf.* my last footnote, and P. Sraffa, ECONOMIC JOURNAL, December 1926, p. 541, note.

[1] *Economics of Welfare*, pp. 217, 218. But this article can claim the sanction of tradition, for in this respect it marks a return to the method employed in the first and second editions of the *Economics of Welfare*, where, apart from the treatment in Appendix III of the first edition (pp. 931 ff.), the whole question is discussed without any mention of the concept of *supply price*, which had, however, formed the basis of the pioneer treatment in *Wealth and Welfare* (pp. 173 ff. : the distinction between *private supply price* and *social supply price*, there drawn on p. 172, must not be confused with the distinction drawn in the later editions of the *Economics of Welfare* between *the standpoint of the industry* and *the standpoint of the community*), and had led to Allyn Young's remark (*Quarterly Journal of Economics*, August 1913, p. 684; quoted by Professor Robbins, ECONOMIC JOURNAL, March 1934, p. 11) that "the problem as a whole, it seems to me, is one to which the general theory of the diminishing productivity of individual factors is appropriate, rather than the curve of marginal supply prices."

Furthermore, this article follows an earlier tradition in being free of all reference to the concept of *transfer elements* (*Economics of Welfare*, p. 218), which had to be introduced into the second and all later editions as a result of Allyn Young's criticisms (*loc. cit.*, p. 683; see also first edition of *Economics of Welfare*, pp. 934, 935, and second edition, p. 194).

[2] Two further reasons must be deferred until later; see p. 14, note, and p. 15, note.

slope of its supply curve [1] and the amount of the optimum subsidy, if any).[2]

(*a*) The fall in the supply curve may not be due to economies [3] (or not entirely). The supply curve of the product may fall if a factor of production is supplied under conditions of falling [4] supply price (Mrs. Robinson's "rare type" of increasing returns.) [5] But this is very unlikely to happen.

(*b*) The existence of economies may fail to be revealed (or to be fully revealed) in a falling supply curve owing to the existence of "scarce" factors, which are supplied to the industry under conditions of rising supply price.[6]

(*c*) The economies may largely accrue to other industries rather than (or as well as) to the industry under review.[7] It is only that part of the external economies which are enjoyed by the one particular industry that is reflected in its supply curve.

(*d*) The economies may be less in magnitude than those which

[1] The slope of the demand curve is, of course, also a factor; *cf.* above p. 6, note.

[2] It is easy to demonstrate the applicability of the same qualifications to the line of attack, initiated by Marshall (*Principles*, pp. 467 ff.) and corrected and elaborated by Mr. Fraser (*loc. cit.*, pp. 45 ff.), which is based on the use of the concept of consumers' surplus.

[3] External economies, since internal economies are not possible when competition is perfect. But it will be seen later that the availability of internal economies under conditions of imperfect competition provides a similar case for a subsidy.

[4] "Forward-falling," of course, not "backward-rising"; see *Review of Economic Studies*, October 1933, pp. 51 and 75, and February 1934, p. 138. I should like to thank Mr. Fraser (and also Mr. Kaldor, *ibid.*, p. 131, note) for the term "forward-falling," which he correctly substitutes (*ibid.*, p. 142) for my meaningless "downward-falling," though I am sorry that my note "does not help" him (*ibid.*) to decide definitely against his suspicion (*Review of Economic Studies*, October 1933, p. 51) that "when people will do more work the lower the wage rate . . . then a rise in the demand for resources will presumably be associated with a fall in their unit price."

Professor Viner points out ("Cost Curves and Supply Curves," *Zeitschrift für Nationalökonomie*, Vol. III, No. 1, p. 39) that costs will be falling in a more orthodox manner "if laborers should have a preference, rational or irrational, for working in an important rather than in a minor industry, and should therefore be willing to accept lower wages as the industry expands."

[5] *Economics of Imperfect Competition*, p. 348.

[6] This was pointed out by Mr. Shove, *loc. cit.* Professor Pigou had come very close to recognising the point, but his "scarce" factor was specifically confined to being a raw material (*Economics of Welfare*, second edition, pp. 195, 196).

[7] Cf. Marshall :—"The economies of production on a large scale can seldom be allocated exactly to any one industry ; they are in great measure attached to groups, often large groups, of correlated industries" (*Industry and Trade*, p. 188 ; quoted by Mr. Sraffa, *loc. cit.*, p. 540); and F. H. Knight :—"The practical objective is to maximize the product of given resources and not to minimize the expenditure of resources in producing a given product" (*loc. cit.*, p. 587).

prevail on the average in industry as a whole, so that the industry under review is producing more, and not less, than its ideal output. Even if qualifications (*a*), (*b*) and (*c*) did not operate, a falling supply curve would provide a case for a subsidy only if the phenomenon of falling supply price was confined to a small number of industries. If it was a widespread phenomenon, it would be those industries with supply curves falling more rapidly than the average which should be expanded (to an extent varying directly with the deviation of the elasticity of the supply curve from the norm), while the others should be contracted.

(*e*) If economies are the exception, and not the rule, so that it is the outputs of only a small number of industries which have to be interfered with in order to bring them up to the ideal level, a scheme of bounties obviously offers the simplest method of bringing about the required diversion of resources, the funds for the bounty being raised by taxing all the other industries, in which there are no economies (and by taxing more heavily those industries, if any, in which there are diseconomies). But if economies are prevalent in a large number of industries, though in varying degrees, we cannot be certain that a complete scheme of subsidies and bounties, the one paying for the other, designed to bring the output of every industry to its socially desirable level, will involve subsidising (as opposed to taxing) *every* industry of which the output is to be expanded.[1] A particular industry's output *may* expand simply as a result of the imposition of taxes on a large number of other industries, in spite of the fact that yet other industries are at the same time being subsidised; and if this expansion would carry the industry's output beyond the ideal point, it is a tax and not a subsidy which is called for.

So far we have been assuming the universal prevalence of conditions of perfect competition. In doing so, we have been running a serious risk of pouring away the baby with the bath water. For external economies must usually take their ultimate origin in the internal economies of some subsidiary industry.[2] These will only exist if the subsidiary industry is producing under conditions of imperfect competition—if, for instance, it consists of a single firm or if a single subsidiary firm is just on the point of crystallising out as a result of the "disintegration" of processes.[3]

[1] This uncertainty will prevail even if there is no correlation between the elasticity of demand for a commodity and the amount of external economies afforded by its production; *a fortiori* if such a correlation does exist.

[2] See E. A. G. Robinson, *Structure of Competitive Industry*, p. 138.

[3] *Ibid.*, p. 111.

We must therefore abate our assumption of perfect competition sufficiently to permit of the utilisation of indivisible or "lumpy" units at below their optimum capacity. Marginal social product still exceeds marginal private product, and this divergence may still be expressed by the term external economy, in spite of the fact that the external economy can be ascribed to the internal economy of some subsidiary firm.[1]

Having now admitted a certain element of imperfect competition into our imaginary system, we should logically be obliged to defer further treatment of this portion of our subject until we had dealt with imperfect competition in the later stages of this article. But the principle which we require is sufficiently obvious and well known to be stated without proof. In a world in which perfect competition is the general rule, any element of monopoly will reduce the application of resources over the field to which it applies below the socially desirable amount.[2] What that means is that our subsidiary firms, which are producing under conditions of falling cost,[3] will, apart from interference, produce less than their ideal outputs. This, in fact, is the basis for a suggestion of Mrs. Robinson's.[4] The complicated system of taxes and bounties outlined above would have the effect—that, indeed, would be its *modus operandi*—of bringing the output of each subsidiary firm to its socially desirable level. In so far, for example, as railway transport is a source of external economy, the industries which make most use of railway transport would be expanded, while the others would be contracted, until the use of railway lines had increased to the point where freight rates were no greater than the marginal cost of transport.[5] "But it would be simpler," says Mrs. Robinson, "to give the subsidy direct to the railway so that the [price charged for transport] was made equal to its marginal cost to the railway." By this simple device the ideal distribution of resources can be attained with very little trouble.[6]

[1] The external economy takes the form of a vertical redistribution of factors, from "lower" to "higher" stages of production, in such a way as to improve their efficiency.

[2] See p. 22 below. [3] But see below, p. 14.

[4] *Review of Economic Studies*, February 1934, p. 140.

[5] On the assumption that all factors of production are in perfectly elastic supply to the railway, for it is only then that "marginal cost to society" is equal to marginal cost to the railway. Any element of monopsony raises the railway's marginal cost above "marginal cost to society." In what follows monopsony is neglected.

[6] The money for the subsidies, if not raised by ordinary taxation, could be obtained by a small uniform tax on industry as a whole. Some mal-diversion of resources would result from such a uniform tax, but it would be too small to be serious.

Those industries which make more use than the average industry of railways and other sources of external economies will be automatically expanded as a result of the cheapening of the products of these subsidiary industries, while the other industries will be automatically contracted, output being carried in each case to the ideal point. Dr. Clapham's economic boxes [1] need no longer remain empty. To assess the extent of external economies present in every industry, to compare this with the average, to decide in the light of this knowledge, and of some estimate of the elasticities of supply and demand, what rate of tax or of bounty is called for—all that may prove an impossible task; and Professor Pigou's brickmaking machinery [2] might lie eternally idle for want of the right kind of straw. But the straw required for the new kind of brick is obtainable with less difficulty; and so the machinery may one day prove useful. It is easy to recognise indivisible units which are being worked below their optimum capacity: railways and public utilities provide obvious, and very important, examples. In such cases any subsidy will do good, provided that it is not too large; and it is not very difficult to make a rough estimate of the subsidy required to equate marginal cost and price. The fact that monopoly depresses output below its ideal quantity is well known. The fact that it is desirable to interfere with monopolies, so as to induce them to produce more, is also well known. The whole problem thus resolves itself into an exercise in the control of public utilities. Dr. Clapham's economic boxes were full all the time, but the economists were looking on the wrong shelf.

One error in Mrs. Robinson's treatment should be pointed out. She takes as an example of a subsidiary industry providing external economies "a railway system which is working at falling average cost and *which is limited to charging prices which just cover its costs*." The phrase that I have put into italics seems to me to be unnecessary. The only condition is that the price charged by the railway exceeds its marginal cost. What Mrs. Robinson clearly has in mind is that an increase in the demand for the railway's services might lead to a rise in the price of transport even though it led to a fall in the railway's average cost. That is obviously a very definite possibility. The economies which are brought about by an expansion in the main industry's output may fail to reveal themselves in a fall in the price of the product of the subsidiary industry, since *ex hypothesi* the subsidiary industry is not of the kind in which price is always kept down to

[1] Economic Journal, September 1922. [2] *Economics of Welfare*, p. 228.

average cost by the entry of new firms; but the economies are nevertheless present, so long as marginal cost falls short of marginal utility, as measured by price.[1] The subsidiary firm may indeed be working at *rising* average cost and it will still give rise to external economies if it is free to maximise its profits, for the price charged will still exceed marginal cost. It is only if it refrains, or is prevented, from earning the maximum profit, that its price can be less than its marginal cost. But if its price *is* less than its marginal cost it is the cause of external *diseconomies*. Thus if the price charged by a railway or public utility is fixed by law at its average cost, external economies will be provided in the ordinary way so long as it is working at falling average cost, but if its output becomes so large that it is working at rising average cost it now becomes responsible for external diseconomies. We thus have a new kind of external diseconomy [2] to set beside the absentee landlords [3] and the raw materials which rise in price as more are imported,[4] and so somewhat to alleviate the rarity of Mrs. Robinson's "rare type" of diminishing returns.[5] It take its origin in "lumpiness," just like the ordinary type of external economy. For it is "lumpiness" which causes a firm's average cost to rise and it is "lumpiness" which prevents new competitors from entering the subsidiary industry and converting it into an industry of optimum firms, each producing at constant average cost. Just as ordinary external economies are best exploited by subsidising the indivisible units from which they take their origin, so this particular type of diseconomy calls for a tax on such subsidiary firms as are producing at a price which falls short of marginal cost.

It seemed to appear, at an earlier stage of this discussion, that in a system which consisted of identical industries no diversion of resources could do anything but harm. External economies might be available, but they would be present everywhere to an equal degree, and there would be no deviation from the norm

[1] This provides another reason why the case for a bounty may fail to be expressed in the slope of an industry's supply curve. A subsidiary industry may supply its product to the main industry under conditions of rising supply price even though it is associated with external economies.

[2] But not of sufficient importance to induce anybody to differ seriously from Mr. Robertson, who, as Edgeworth puts it, "in his graceful manner denies that any such phenomenon exists" ("The Revised Doctrine of Marginal Social Product," ECONOMIC JOURNAL, March 1925, p. 34).

[3] Edgeworth, *ibid.*, p. 35.

[4] *Economics of Welfare*, p. 221.

[5] *Economics of Imperfect Competition*, pp. 347, 348.

such as would provide a case for diversion. That conclusion must now be revised. If the economies take their origin in subsidiary industries, the case for expanding these subsidiary industries still holds good. No *horizontal* diversion of resources is called for, but it is in the social interest to divert resources in *a vertical* direction from the "lower" to the "higher" stages of production. Increased efficiency is obtainable by an alteration of the technique of production.

A similar point is illustrated by the case of smoke. If one industry emits an exceptional amount of smoke is is socially desirable to divert resources from that industry to other industries.[1] If all industries are equally smoky, no diversion as between industries is called for.[2] But it would be absurd to suppose that no kind of interference could in such a case increase the national dividend. Legal restrictions on the emission of smoke, and the encouragement of methods of preventing smoke,[3] would still have an important part to play. The fact is that our attention has so far been confined to the ideal *quantity* of an industry's output. We have not paid any attention to the ideal *method* of production. The two questions are quite distinct, and they may be equally important. The national dividend is maximised only when the value of the marginal social product of each separate natural unit of a factor is equal *in all possible uses*, both potential and actual. It is not sufficient that the value of the marginal social product of capital embodied in factory chimneys shall be equal in all industries. Capital must be transformed from other shapes into factory chimneys until factory chimneys are so high that the value of the marginal social product of capital embodied in factory chimneys is reduced to the level which accrues to all other embodiments of capital. This brings us to the class of "Divergences between Marginal Social Net Product and Marginal Private Net Product"[4] which Professor Pigou

[1] It is of the nature of smoke that it harms least those who make most of it. In other words, the external diseconomy is suffered almost entirely by industries other than the one in which it originates. Very little of an industry's smoke gets into its supply curve. But that does not alter the argument.

[2] We are here neglecting Mr. Robinson's fundamental distinction between "mobile" and "immobile" economies (*op. cit.*, p. 142), and the important questions of localisation which arise with it.

[3] *Cf. Economics of Welfare*, p. 184.

[4] *Ibid.*, Part II, Chapter IX. Here there ceases to be any correlation whatever between the case for interference and the shape of the industry's supply curve. The effect of "the primitive type of tenancy contracts" (*ibid.*, p. 177), to which Professor Pigou devotes a considerable portion of the chapter, is to raise the value of the marginal social product of resources applied on particular kinds of property to the purposes of maintenance and improvement above the generally prevailing

deals with before he comes to the divergences related with the phenomena of "Increasing and Decreasing Supply Price,"[1] and which are not open to the criticism, advanced above, that if all industries were alike, there could be no case for interference even though marginal social product were not always identical with marginal private product.

It is by now fairly evident that instead of thinking in terms of external economies and diseconomies, an alternative route is open to us. In all these cases the failure of *laissez-faire* to achieve the best of all possible worlds may be fairly laid at the door of the imperfection of the pricing system. In an ideal world price would always be equated to marginal cost to society, and all would be well. "Lumpy" units would be employed at ideal capacity, and every factory, having to pay for the damage which its own smoke caused to others, would emit the ideal quantity of smoke. The stimulus which is afforded by a growth in the scale of industry to inventive ingenuity and to the skill of labour can also be forced under the same head. But in this case the strain involved is considerable, and there is little point in incurring it, as opposed to the case of "lumpy" units, which we have seen to yield to treatment with far greater ease and simplicity if looked at from the point of view of a divergence between price and marginal cost than if looked at from the point of view of external economies and diseconomies. In each case that method of analysis is to be selected which is the more congenial to the objective in view. Thus in the case of smoke, if we are thinking of a levy designed to discourage the emission of smoke, it is more convenient to treat the problem in terms of the pricing system; but if we are thinking of a subsidy to encourage the use of smoke-consuming methods, it is best thought of in terms of external economies.

The emission of smoke can be said to upset the ideal pricing system, not only because the individual does not have to pay for the damage which he does to others, but alternatively because the individual does not have to pay an economic price for the air which he utilises. Now it is neither practicable to put a price on air nor convenient to imagine such a procedure. With polluting the atmosphere may be contrasted the act of congesting

value of marginal social product; the excess accrues to posterity, and arises from the fact that the temporary owner of the property does not reap the *normal* benefit or suffer the *normal* penalty of his actions.

[1] *Economics of Welfare*, Part II, Chapter XI.

the thoroughfare. Roads can be created at a certain cost and a charge can be levied for their use. A different line of attack is therefore to be commended. It is true that the provision of road-transport is commonly said to be attended by external diseconomies,[1] for an expansion of one firm engaged in this industry raises the costs of other firms. So long as roads are regarded as having the attributes of air, there is no need to quarrel with this view: just as smoke pollutes the air, so motor vehicles may be said to pollute the roads; and the case for interference may be based on the existence of external diseconomies. But the analogy with air is not altogether convincing. Roads, unlike air, are best regarded as composed of various factors of production.[2] When an individual transport firm increases its use of the roads, it raises the costs of other firms simply because it abstracts land, and other factors, from them: the rise in costs is due to the existence of a "scarce" factor, not to external diseconomies. In considering the application of all other factors, considered as one composite factor, to the factor "road," our definition of marginal social product—and by implication of external diseconomies, which are said to exist when marginal social product falls short of marginal private product—requires that the amount of road-space utilised by the firm which increases its output shall remain constant. It follows that the amount of road-space available to all the other firms also remains constant. Their output is consequently unaltered; and marginal social product does not differ from marginal private product. The case for interference must find a different basis. It is not necessary to look very far. Even in the absence of external economies or diseconomies, the situation is "ideal" only if each factor of production is paid its "economic return," *i.e.*, the value of its marginal product. In the case of the roads this would require a levy equal to that which would be extorted if the roads were privately owned by a large number of competing landlords.[3] If the payment exacted for the use of the roads—in the shape of the licence duty, the petrol tax, and

[1] *Cf.* J. Viner, *loc. cit.*, p. 41, and N. Kaldor, ECONOMIC JOURNAL, March 1934, p. 66.

[2] An alternative would be to regard the use of roads as a factor supplied by some subsidiary industry. External diseconomies could then quite properly be said to prevail, in accordance with the argument of p. 13, so long as the price charged for the use of the roads fell short of the marginal cost of using them. This line of approach must lead to the same conclusions as the one indicated in the text.

[3] *Cf.* F. H. Knight: "If the roads are assumed to be subject to private appropriation and exploitation, precisely the ideal situation which would be established by [an] imaginary tax will be brought about through the operation of ordinary economic motives" (*loc. cit.*, pp. 586, 587).

the like—falls short of this "economic return," the ratio of vehicles to road-space is greater than is socially desirable. In other words, the roads are cultivated too intensively—beyond the point where the value of the marginal product of a motor-car is equal to its cost. The same argument applies, as Professor Viner has pointed out,[1] "in the grazing, hunting and fishing industries, where no rent is charged for the use of valuable natural opportunities and they tend therefore to be overexploited with resultant waste, [and] in competitive digging of wells over a common pool of oil."

There is then a good case for inflicting on road-transport a charge equal to that which it would have to pay under a system of tolls exacted by a number of competing private owners. But in this ideal system, which is suggested as a standard of comparison, competition would have to be really perfect—that is to say, there would have to be a number of alternative routes between any two points: if each of our existing roads came into private hands, and the maximum revenue was secured to each individual owner by means of a toll, the price charged would exceed the value of the marginal product of road-space, and the number of vehicles would be depressed *below* the social optimum.

That is not all. The interests of the national dividend demand that each factor shall be paid a price which is equal to the value of its marginal product, not only in its actual occupation, but also, if it is on the margin of transfer, in its alternative occupation. That means that road-building should be carried to the point where it would not pay a private individual, relying on tolls to reimburse him, to build an additional road in competition with the existing roads.[2] If we take the present number of roads as given, there are doubtless too many motor-cars; but it seems quite likely that there are too few roads,[3] and it is even possible that, given the ideal number of roads, the ideal number of motor-cars would exceed the present number.

Practical considerations enforce the imposition of a uniform charge on motor-cars, without any regard to the economic value of the particular road service which each enjoys. Some compromise has to be sought between the rates of tax appropriate to different districts, and the congested roads will necessarily be more con-

[1] "The Doctrine of Comparative Costs," *Weltwirtschaftliches Archiv*, October 1932, p. 397, note.

[2] If the number of roads between any two points is not already large—it clearly is not—it will not be socially desirable to increase the number of roads right up to the point indicated by this condition.

[3] Even on the assumption, to which we are adhering throughout, that labour is fully employed.

gested than the social interests dictate, while the uncongested roads will be too uncongested. But the criterion for the desirability of building additional roads in congested districts becomes even more liberal than it was before: the fact that the full economic rent is not exacted for the use of roads in these districts means that it is desirable up to a point to build roads of which the cost actually exceeds the return that would be received if the full economic rent *were* exacted.

We have been basing our treatment on the assumption of a fixed supply of factors of production in terms of natural units. It remains to inquire whether the supply of factors, in so far as it is variable, will be such as to maximise economic welfare.[1] Equality between marginal disutility and earnings must, if earnings are less than marginal social productivity, mean that marginal disutility falls short of marginal social productivity. Thus if external economies are at all appreciable over the field of industry in general, it is socially desirable to stimulate the supply of factors of production.[2]

It need scarcely be remarked that the application of such a line of thought to the question of the supply of population is appropriate only if it is aggregate welfare, obtained by summing the individual welfares of all the members of society, and not average welfare per head, which it is thought desirable to maximise.[3]

III

At this point I intend to drop the assumption of perfect competition. It will simplify my treatment if I can now neglect the possibility of external economies and diseconomies, except for such external economies, associated with the existence of indivisible units, as may be said to take their origin in imperfection of competition itself. The failure of the pricing system is now to be ascribed to the divergence between price and marginal revenue to the individual firm: marginal cost is equal to marginal revenue, and not to price. To avoid undue complication, I shall disregard all elements of monopsony—that is to say, I shall assume that the factors of production are always purchased under conditions of perfect competition, though I shall no longer assume

[1] *Cf.* L. M. Fraser, *loc. cit.*, p. 51. [2] *Cf. Economics of Welfare*, p. 225.

[3] *Cf. ibid.*, p. 99, note: "A population, which, in given conditions, maximises this quantum [of happiness], seems to have a much better claim to be called the *optimum* population than a population which maximises *real income per head.*"

that the finished product is sold under conditions of perfect competition. I shall assume, furthermore, that conditions of *simple monopoly* always prevail, *i.e.* that no firm discriminates by charging different prices for different portions of its output. It is well known that in certain cases discrimination will lead to a socially more desirable situation than that which is attained under conditions of simple monopoly, but this possibility will be referred to only by the way.

It is to be understood that the phrase *imperfection of competition* does not carry with it any of those implications with which by tradition the word *monopoly* is associated. I assume that any entrepreneur is free to enter that industry in which his earnings are highest, and there to maximise his earnings, and I shall not be discussing any types of interference which are called for by the breakdown of that assumption. Competition is imperfect if the price obtainable by an individual firm is not independent of its own output, or, in other words, if the demand for the individual firm is not perfectly elastic. The elasticity of demand for the individual firm can be employed as an inverse ordinal measure of the *degree* of imperfection of competition.

I shall also be assuming that the imperfection of competition is something which is inevitable, and cannot be reduced by means of interference. It is, however, obvious that in so far as the failure of *laissez-faire* is to be ascribed to ignorance and inertia on the part of consumers, the education of the consumer provides a more practicable means of advancing towards the ideal situation than the measures which are alluded to in the following pages.

It will be convenient to resort once again to the assumption that the supply of factors of production is completely inelastic in terms of natural units. This assumption will be abandoned in the final paragraph of the article.

The abandonment of the assumption of perfect competition does not entail any alteration in the condition for the maximisation of the national dividend. "The amount of a factor in any use will be *ideal* when the value of the marginal . . .[1] product of each marginal unit (unit situated on the margin of transfer) is the same in that use as in the alternative occupation,"[2] the value of the marginal product being equal to the marginal physical product multiplied by the price of the commodity produced. But each factor now receives less than the value of its marginal physical product. Under conditions of *laissez-faire* each unit finds its way into that use where its *marginal productivity*, which

[1] The word "social" has now become otiose. [2] P. 4 above.

is equal to its marginal physical product multiplied by marginal revenue to the firm that employs it, is a maximum : the margin of transfer consists of units for which marginal physical product multiplied by marginal revenue is the same in the two uses. It follows that the extent and direction in which the amount of a factor employed in any use differs from the ideal amount varies directly with the divergence between the fraction

$$\frac{\text{marginal revenue to the individual firm}}{\text{price}}$$

in the particular use and in the alternative use from which the factor has to be drawn. Now the fraction

$$\frac{\text{marginal revenue to the individual firm}}{\text{price}}$$

is equal to

$$\frac{\text{elasticity of demand for the individual firm } \textit{minus} \text{ one,}}{\text{elasticity of demand for the individual firm}}$$ and the magnitude of the elasticity of demand is an inverse measure of the degree of imperfection of competition. We may conclude that it is socially desirable to expand those industries [1] in which competition is more imperfect than the industries with which they compete for their factors of production and to contract those in which the opposite condition prevails. The analogy with the type of interference which is called for by the existence of external economies is complete : the degree of imperfection of competition takes the place of the amount of external economies. Making the same assumption as we made above [2] in dealing with external economies—that each industry draws its factors of production from " industry in general "—and reserving the same rights of retranslation, we can evolve a similar scheme. All industries are to be arranged in descending order of degree of imperfection of competition. Then it is socially desirable to expand those industries which lie above the " average " industry and to contract those which lie below. It is not the absolute degree of imperfection of competition (of " monopoly ") but the deviation from the norm which determines the direction and magnitude of the devia-

[1] It is to be noted, as Mr. Kaldor has recently pointed out (*Economica*, August 1934, p. 339), that the use of the concept of an " industry " usually carries with it the highly implicit assumption that the demand for the product of each of the constituent firms is equally elastic. The unreality of this assumption is less apparent than the danger of overlooking its existence, and, for the sake of simplicity, I shall be assuming that over the field of any one industry competition is uniformly imperfect.

[2] See p. 6.

tion from ideal output.[1] If competition were everywhere equally imperfect there would be no case for interference. When Professor Pigou is discussing the effect of monopoly in causing output to deviate from the ideal,[2] he is conceiving of a degree of monopoly which exceeds the average. Or, rather, Professor Pigou's monopolies are rare phenomena in a world in which competition is generally perfect.[3]

At this point it becomes essential to consider the distinction between the hiring factor—the entrepreneur—and the hired factors of production. The marginal *private* physical product of an entrepreneur is a concept to which no meaning can be usefully attached. I shall speak of the *marginal physical product* of an entrepreneur in the sense of the physical increment of output which society obtains as a result of the application of an *additional* entrepreneur to a particular type of production, the natural units of all other factors employed by industry as a whole remaining the same as before. This marginal physical product of an entrepreneur, unlike the marginal private physical product (but like the marginal social physical product in the presence of external economies or diseconomies) of an ordinary hired factor, may be a hotch-potch, consisting of an increment of output in the one particular use and decrements of output in other uses, from which hired factors may be diverted to the new entrepreneur; so that in general an entrepreneur's marginal physical product is not capable of being measured. But the *value* of an entrepreneur's marginal physical product is expressed in terms of money. Two questions have now to be considered: first, the relation between an entrepreneur's wage and the value of his marginal physical product; and second, the relation between the value of his marginal physical product and his marginal social productivity, by which I mean the increment of economic welfare which results from the addition of one entrepreneur.

So long as competition is assumed to be perfect, the distinction between the entrepreneur and the hired factors of production, though it may be important, turns out to be irrelevant. For under conditions of universally perfect competition, the

[1] The same point of view has recently been put forward by Mr. Lerner, *Review of Economic Studies*, June 1934, p. 172, following Mrs. Robinson, *Economics of Imperfect Competition*, p. 310.

[2] *Economics of Welfare*, p. 270.

[3] His "archetypal industry," so far from depicting what "*would* be attained under conditions of simple competition" (*ibid.*, p. 213, note: my italics), must be regarded as *actually* "representative of industries in general" (*ibid.*, p. 213).

earnings of an entrepreneur in any occupation fall short of the value of his marginal physical product by the amount of the external economies to which he gives rise when he is placed in that occupation,[1] while it is clear that the value of his marginal physical product is equal to his marginal social productivity. Thus the scheme of ideas which applies to the hired factors of production is equally applicable to the entrepreneur.

When competition is imperfect, however, the distinction becomes fundamental.[2] As Mrs. Robinson has shown,[3] by just the amount by which the rewards of the hired factors fall short of the value of their marginal physical products the earnings of the entrepreneur exceed the value of *his* marginal physical product. In other words, the entrepreneur gets more than the value of his marginal physical product to the extent that competition is imperfect *in the uses from which he draws the hired factors of production.* It will be useful to distinguish two extreme cases, somewhere between which any actual case must lie.

On the one hand, we may suppose that each entrepreneur competes for his factors of production with other entrepreneurs in the same, or similar, industries, subject to the same degree of imperfection of competition as that to which he is himself subject. Then the excess of his earnings over the value of his marginal physical product depends on the imperfection of competition in the particular industry where he functions. This is likely to be the case in any industry for which the number of entrepreneurs in a given locality is fairly considerable.

At the other extreme we have the case where the additional entrepreneur draws his factors of production from industry in general. Then the excess of his earnings over the value of his marginal physical product depends on the imperfection of competition in industry in general. This is likely to be the case for a firm which operates in an area where there are no other firms producing the same type of product; but not invariably so—a newly-built railway may draw its personnel from the ranks of railway employees in other parts of the country rather than from

[1] See Joan Robinson, "Euler's Theorem and the Problem of Distribution," ECONOMIC JOURNAL, September 1934, pp. 409, 410. Mrs. Robinson confines her treatment to the entrepreneur's marginal physical product to the industry in which he is placed, but it is easily generalised so as to apply to his marginal physical product to society.

[2] Since I elaborated the basis of this article, Mr. Kaldor has made it clear (*loc. cit.*, p. 337, and especially p. 338, note 2) that he is working on very similar lines.

[3] *Loc. cit.*, p. 413.

the local population. In the special case where competition in industry in general is perfect, an entrepreneur who draws his factors from industry in general receives the value of his marginal product, and no more, no matter how imperfect by way of exception is the competition which prevails in his own particular industry.[1]

It remains to consider the relation between the value of an entrepreneur's marginal physical product and his marginal social productivity—his contribution to the national dividend. In the case of the hired factors of production there is no question to discuss. For an addition of one unit of a hired factor involves an addition equal in amount to the factor's marginal physical product to the output of a particular firm. The increment to the firm's output is in all respects indistinguishable from the output that was already being produced. The marginal utility of this output is measured by its price; and it follows that the marginal social productivity of the factor is equal to the value of its marginal physical product. But the setting-up of an additional firm may involve the production of what is to all intents and purposes a new commodity, differing from anything that was already being produced.[2] Several cases must be distinguished. If the new firm is set up in an industry in which competition is perfect, and remains perfect, no problem arises: its output takes the form of a pre-existing commodity. The same is true if imperfection of competition is due purely to oligopoly, the market being perfect but the number of firms being small. The marginal social productivity of the entrepreneur is in these two cases still equal to the value of his marginal physical product. It is when we come to imperfection of the market that the difficulty begins. The cheese manufactured by one firm now differs from other kinds of cheese. The question before us is whether this difference is the same in kind, though not perhaps in degree, as the difference between cheese and chalk. It is necessary to distinguish between two extreme types of market imperfection,[3] the purely *rational*

[1] Mrs. Robinson's treatment is based on the tacit assumption that each entrepreneur competes for his factors with *similar* entrepreneurs. It is unfortunate that as an example of Wicksteed's perception of "the fact that under imperfect competition the entrepreneurs receive more than their marginal physical productivity," she refers to his instance of "a great monopoly or trust" (*loc. cit.*, p. 414); for it is *par excellence* the type of entrepreneur which is to be found in a so-called "monopoly or trust" who must draw his factor of production from industry in general, and who therefore receives no more than the value of his marginal physical product if competition is, generally speaking, perfect (and actually receives less, as will be seen in a moment—p. 27, below—than his marginal social productivity).

[2] Cf. A. P. Lerner, *loc. cit.*, p. 167.

[3] See E. A. G. Robinson, *op. cit.*, p. 173.

and the purely *irrational*. In actual practice we usually find a mixture of the two, and the determination of the composition of the mixture is often a matter for somewhat arbitrary assessment.

The imperfection of the market is purely *irrational* if it takes its origin in preferences which obtain no justification, when they are satisfied, in actual enjoyment, and the thwarting of which causes no loss of satisfaction. "It may take thousands of acres of paper, or a prolonged and considerable difference of price, to penetrate my consciousness and teach the old parrot a new cry. But once I have learned it, I am as likely to be better off as worse."[1] Irrationality of imperfection is to be detected by imagining that each consumer in turn is forcibly removed from the firm with which he is accustomed to deal to some other firm which meets the same want at a cost which, according to the general consensus of the market, is the same as that incurred hitherto. The imperfection is irrational to the extent that the consumer suffers no loss of satisfaction as a consequence of such diversion, and experiences the same degree of preference for the product of the new firm to that of other firms as he formerly did for the product of the old firm. Preferences which are the result of ignorance or inertia are almost entirely irrational, though the momentary inconvenience and discomfort, which a change of custom inevitably involves, entails an element of rationality, of which the magnitude is the smaller the lower the rate at which the future should be discounted from the point of view of society. Where habit, and still more tradition, form the basis of imperfection, the element of rationality must be regarded as more considerable. The resistance to change may persist for some considerable time after a change has occurred. The extent to which the imperfection is irrational depends on the length of this time-lag and on the rate at which the future should be discounted.

Where the imperfection of the market is purely irrational the product of an additional firm represents nothing more than an addition to the output of a definite "commodity." The increment of utility afforded to society is equal to this commodity's marginal utility, measured by its price, for each extra unit produced. The marginal social productivity of the entrepreneur is then equal to the value of his marginal physical product, just as in the case of perfect competition and of oligopoly in a perfect market.

Imperfection of the market is purely *rational* if it takes its basis in preferences which correspond to real satisfactions. In so

[1] E. A. G. Robinson, *loc. cit.*

far as the forcible transfer of a consumer from one firm to another has no effect on his scale of preferences for the products of the different firms, the imperfection may be said to be rational. In such a case "there is an adequate economic justification for the preference shown by the consumer, and his custom can only be transferred to a less convenient producer or shop at a loss to himself."[1] The most obvious example of rational imperfection of competition is that provided by what is ordinarily called a "monopoly," where the whole of the production of a "commodity" is in the hands of a single entrepreneur, though even here Marshall's distinction[2] between long- and short-period elasticity of demand reminds us, that "as if increase of appetite had grown by what it fed on," an element of irrationality is often present. Where the market is imperfect as a result of the cost of transport the imperfection is purely rational. But even where the imperfection is due to customers' preferences a considerable element of rationality is often present. The fact of idiosyncrasy need not be stigmatised as irrational provided that it has some permanent foundation which will survive a transfer of custom. The distinction between rational and irrational preferences does not commit us to any view as to the desirability of "bullying the consumer." If we like to go behind the consumer's back and decide for him, rather than allow him to decide for himself the value to be ascribed to his individual tastes, we may, if we so care, classify as irrational the greater part, or all, of his preferences. But nothing in this article need drive us to such ruthless resorts. It is doubtless true that "it is the contrary English customer who has done most to make the contrary English firm,"[3] but we are free to ascribe to contrariness all the virtue that may be its due.[4] We may leave the consumer to decide for himself, regarding as irrational only those preferences which investigation would prove to be ephemeral. But it is sufficiently clear that not even so liberal an attitude will leave us with a very considerable element of rationality—apart, as has been said, from the preferences between what are commonly called "commodities" and the preferences which are associated with costs of transport.

Where imperfection of competition is at all rational, an ad-

[1] E. A. G. Robinson, *loc. cit.*

[2] *Principles*, p. 110.

[3] E. A. G. Robinson, *op. cit.*, p. 176.

[4] The somewhat arbitrary nature of the distinction between rational and irrational imperfection is associated with an arbitrary element in the measurement of the national dividend; *cf. Economics of Welfare*, p. 69: "So far . . . as 'new commodities' are introduced between two periods which are being compared, the measures [of the national dividend] are imperfect."

ditional entrepreneur is doing more than merely add a certain physical increment to a pre-existing flow of a commodity. He is satisfying certain preferences which were previously being thwarted. His marginal social productivity exceeds the value of his marginal physical product. If the imperfection is purely rational his marginal social productivity is equal to his firm's physical output multiplied by its *average* utility *minus* the loss of utility occasioned elsewhere by the diversion of the hired factors to his employment. It follows at once that his marginal social productivity exceeds the value of his marginal physical product by the excess of the average utility of his output over its price (or marginal utility), multiplied by the amount of his output.[1] In other words, where imperfection of competition is purely rational an entrepreneur's marginal social productivity exceeds the value of his marginal physical product by the additional revenue which he could earn by selling his output under conditions of perfectly discriminatory, instead of simple, monopoly.

A synthesis is now possible. Any given entrepreneur is typified by two parameters—his type is determined, as it were, by a point on a two-dimensional diagram. The one parameter depends on the extent to which the entrepreneur competes for his factors with similar entrepreneurs, working under the same degree of imperfection of competition as he is himself, and on the extent, on the other hand, to which he competes for his factors with "industry in general." The other parameter depends on the extent to which the imperfection of competition to which he is subject is rational and on the extent to which it is irrational. We have so far dealt with the two extreme values of each of these two parameters considered separately. Of these extremes the possible number of combinations is four. We shall now deal in turn with each of these four combinations. We shall thus have dealt with the four extreme points that determine the rectangle within which the type of any entrepreneur can be denoted. It will be sufficient to deal with these four extreme cases. Any intermediate case can easily be fitted into the scheme.

It is to be remembered that the changes that are to be rung refer only to the distribution as between one use and another of entrepreneurs. The question of the distribution of the hired factors has already been discussed, and what was said above still stands: the national dividend can be raised above the level attained under conditions of *laissez-faire* by diverting the hired factors of pro-

[1] *I.e.* by the consumers' surplus afforded by his firm's output.

duction away from those uses where the imperfection of competition falls short of the average and by attracting them into those uses where the imperfection of competition exceeds the average.

We may begin with the extreme in which each entrepreneur in the particular industry competes for his factors of production with the other entrepreneurs in the same industry and where the imperfection of competition is wholly irrational. Then the reward of the entrepreneur exceeds the value of his marginal physical product by an amount varying with the degree of imperfection of competition in that industry, and the value of his marginal physical product is identical with his marginal social productivity. Each entrepreneur will enter the industry in which his reward is highest, but his marginal social productivity falls short of his reward by an amount varying with the imperfection of competition. It follows that the national dividend can be increased by diverting entrepreneurs away from any industry in which the imperfection of competition exceeds the average and by attracting them into any industry in which the imperfection of competition falls short of the average. In fact, the treatment which should be applied to entrepreneurs is precisely the opposite to that which is appropriate to the hired factors. Thus taking retail selling as an example of an industry in which competition is exceptionally imperfect, we may conclude that, just as it is desirable to increase the amount of hired factors engaged in retail selling, so it is desirable to diminish the number of shops. Either change by itself is calculated to increase the national dividend : [1] in the one case the total output of the service of retail selling will be increased, in the other case it will be diminished.[2] But most desirable of all is to effect both changes in such a way as to attain a larger aggregate of output from a larger aggregate of hired factors and

[1] It should again be emphasised that I am discussing only the aggregate of the national dividend, and not its distribution. A reduction in the number of retail shops, brought about by some kind of interference, is very likely to lead to a rise in retail prices. The surviving shopkeepers will then obtain a disproportionate share of the increase in the nation's income—in fact, it is quite possible that they will obtain the whole of the increase and a good bit more besides. Such distributional questions lie outside the bounds of this discussion. It may, however, be pointed out that if the restriction on the number of shopkeepers is brought about by some system of taxation, and not by a system, say, of licences, and the proceeds of the taxation are available to the nation as a whole, these anomalies will be less significant.

[2] On the assumption that the value of the marginal physical product of a marginal shopkeeper is not negative—as it may well be (see p. 32 below).

a smaller aggregate of entrepreneurs. The ideal situation of an industry is attained when its size and organisation are exactly such as would prevail if it were subject under conditions of *laissez-faire* to that degree of imperfection of competition which exists on the average over industry as a whole.

While it is desirable in the case of industries in which competition is *abnormally* imperfect to increase the size of the firm—to raise it closer to the optimum—for industries in which competition is *subnormally* imperfect, the opposite procedure is called for. Too large an output is here produced by too few firms in the absence of interference, and it is socially desirable to have more firms, each producing on a smaller scale. "To reproduce the conditions of perfect competition" is not the correct battle-cry for this type of "rationalisation," unless perfect competition is the rule over the main part of the field of industry.

The reproduction of the conditions of the average degree of imperfection of competition is what is required. This can be attained by a very simple device. The amount of hired factors in any industry can be regulated by means of a subsidy (or tax). The number of entrepreneurs can be regulated by means of a lump-sum tax (or subsidy), levied on (or paid to) each entrepreneur. If each type of regulation is carried to the ideal point the lump-sum tax (or subsidy) allocated to every entrepreneur will be exactly equal in amount to the total subsidy (or tax) allocated to the factors of production which he employs. For the output of the industry, and therefore the price, and therefore the average cost, are to be the same as they would be if the average degree of imperfection prevailed. But the industry is to be a facsimile of what it would be if the average degree of imperfection of competition prevailed. Thus the actual cost incurred, after allowing for the subsidy and tax, must be equal to the cost exclusive of any subsidy and tax. It follows that the subsidy must exactly pay for the tax. Each industry can be treated as a water-tight compartment, and there need in this case be no question of taxing one industry for the benefit of another.

This simple result requires some qualification. It is easy to see that :—

An entrepreneur's marginal social productivity = his earnings

$$-\frac{\text{cost of hired factors}}{e-1},$$

where e is in some sense the average elasticity of demand

for the individual firms in the particular industry.[1] Thus the divergence between an entrepreneur's marginal social productivity and his earnings depends not only on the degree of imperfection of competition but also on the magnitude of the firm's aggregate costs (exclusive of profits), or, as we may put it, on the size of the firm. Now the size of a firm depends on two sets of factors :—(*a*) it depends on the technical conditions of production, as expressed by its cost curve ; and (*b*) it depends on the degree of imperfection of competition, as expressed by the demand curve for its product. So far as variations in the size of firms are due to variations in the imperfection of competition, we have already dealt with the case for interference which they set up ; for the operation of reproducing the conditions of the average degree of imperfection brings the firms to the scale at which they would operate in the face of the average degree of imperfection. There remain such variations in the size of firms which are due, not to differences in the sizes of their individual markets, but to differences in the technical conditions of production—*natural* differences, as we may call them. The above equation makes it clear that the type of diversion which is called for where firms are naturally large is the same in direction as that which is called for where the imperfection of competition is great. That is to say, in addition to, and on top of, the type of diversion which has so far been considered, it is socially desirable to divert entrepreneurs from industries in which the firms are naturally larger than the average for industry as a whole, and to attract them into industries where the firms are naturally below the average in size. Where the firms are already naturally large under conditions of *laissez-faire* it is in the interests of society that they should be yet larger ; where they are already naturally small it is in the interests of society that they should be yet smaller. This type of diversion would be called for even though competition were equally imperfect in all industries (and it would then be the only type that was called for). The extent to which it is most desirable to carry it is the smaller the less imperfect is competition : under conditions of universally perfect competition

[1] Imagine the entrepreneur to be taken away, the factors which he was hiring being diverted to other firms. The value of the increase in output of these other firms is equal to the cost of the hired factors multiplied by $\frac{e}{e-1}$ $\left(\text{since } \frac{e}{e-1} = \frac{\text{price}}{\text{marginal revenue}}\right)$.

Hence the entrepreneur's marginal social productivity = value of his output $- \frac{e}{e-1}$ (cost of hired factors) = his earnings $- \frac{\text{cost of hired factors}}{e-1}$.

it ceases, of course, to be desirable, the denominator of the last term in the above equation then being equal to infinity.

All this has a simple interpretation in terms of common sense. Imperfection of competition implies the existence of internal economies. Now internal economies, no less than the external economies considered in the earlier portion of this article, provide a basis for interference. If the internal economies are everywhere equal, no diversion is called for. It is when the degree of internal economy is different in different uses that a diversion of factors of production is calculated to increase the national dividend. The internal economies are greatest where the firms are naturally the largest, and it is therefore socially desirable to make naturally large firms still larger at the expense of reducing yet further the size of the naturally small firms. This would be the only type of diversion that would be called for if competition were everywhere equally imperfect. But where competition is abnormally imperfect, the firms are abnormally below their optimum in size and the internal economies are abnormally great. It is therefore desirable to increase the size of such firms at the expense of reducing the size of those firms which are faced with a less than average degree of imperfection of competition.

We may now turn to the extreme case where, the imperfection of competition being still wholly irrational, each entrepreneur competes for his factors of production with industry in general. We can still write :—

An entrepreneur's marginal social productivity = his earnings

$$- \frac{\text{cost of hired factors}}{e - 1},$$

but e is now the average elasticity of demand for the individual firms taken over industry as a whole. Since e is now the same in all uses the last term in this equation can only differ as between uses in which the size of the firm, as measured by aggregate cost (excluding profits), is different. Once again it is socially desirable to divert entrepreneurs from uses where the firms are large to uses where the firms are small—to make large firms larger and small firms smaller. This time the proposition is of general application : it is not only the firms which are *naturally* small that it is socially desirable to render still smaller, but equally the firms which are small because their individual markets are so limited; and similarly for the large firms. It has, however, to be remembered that if competition is not uniformly imperfect everywhere, the

diversion of entrepreneurs is not the only kind of diversion which the social interest calls for. The diversion of the hired factors from points where competition is less imperfect to points where competition is more imperfect is calculated, taken by itself, to render small firms larger and large firms smaller. The simultaneous practice of both types of diversion will result in a shift of entrepreneurs in the same directions as the hired factors, and it seems impossible to lay down any general principle as to the effect on the size of the firms.

Up to this point it has been tacitly assumed that the entrepreneur is always capable of making a positive contribution to society's welfare, so that it is merely a question of where each entrepreneur may most advantageously be placed. There remains the possibility that society would be better off if some entrepreneurs were prevented from supplying it with their services, *i.e.* if the total number of firms were forcibly curtailed. So long as competition is everywhere perfect, each entrepreneur's marginal social productivity is equal to his earnings. Provided that entrepreneurs can be relied on to refuse to work for a negative return, we can rest assured that this marginal social productivity under conditions of perfect competition will be positive. But if competition is sufficiently imperfect, the imperfection being of the irrational type, then, as the above equation indicates, an entrepreneur's marginal social productivity may be negative even though his earnings are positive. In such a case society would be better off without him, reaping a net gain by concentrating the factors which he has been hiring on to the other firms. The criterion for such redundancy is a simple one. If the firms in a particular industry are producing under conditions of falling average cost of hired factors (falling average cost excluding profits)—if, that is to say, an increase in the size of any one firm would be attended by actual *technical* economies,—then the value of each entrepreneur's marginal physical product, and therefore his marginal social productivity, is negative. For if the average cost of the hired factors is falling for each firm, the sum obtained by aggregating for the firm the product of the amount of each hired factor by the value of its marginal physical product exceeds the value of output. But, since we are assuming that there are no external economies or diseconomies, the sum obtained by aggregating for the industry the product of the amount of each factor, *including the entrepreneur*, by the value of its marginal physical product *is equal* to the value of output. Hence the value

of the marginal physical product of the entrepreneurs is negative if the average cost of the hired factors is falling for each firm. Where this condition holds there are too many firms from the point of view of society, and production is unnecessarily inefficient. When the number of firms have been reduced to the ideal quantity, the internal economies will be due entirely to the spreading of the entrepreneur's profit over a larger output.

If the entrepreneur is capable of serving society in some alternative capacity, *e.g.* as a salaried official, the criterion for redundancy is correspondingly more stringent. An entrepreneur will be better employed in some other rôle if the value of his marginal physical product as an entrepreneur, though positive, is less than the value of his marginal physical product in the alternative occupation. Firms may thus be socially redundant even though they are of such a size that the technical economies of large scale have already been exhausted.

There remain the two extreme cases of purely rational imperfection. Our formula now becomes :—

$$\text{An entrepreneur's marginal social productivity} = \text{his earnings} - \frac{\text{cost of hired factors}}{e-1} + \text{addition to revenue caused by perfect discrimination,}$$ [1]

where e is the average elasticity of demand for the individual firms with which he competes for his factors of production. In the special case where $e = \infty$, the second term on the right-hand side vanishes, and we have the well-known rule that an entrepreneur's marginal social productivity is in a world of perfect competition measured by the total profit which he could obtain if he were discriminating perfectly. A railway (provided that its clients' preferences for it are purely rational) is socially desirable so long as it *could* by discriminating perfectly cover its costs,[2] no matter whether in fact it discriminates or not.

To the extent that the railway draws its factors of production from firms for which competition is imperfect, the strength of the social case for its existence is weakened. It is easy to see that in practice the magnitude of the second term on the right-hand side of the above equation will often be very considerable.

[1] It is the addition to revenue which would be obtained by discriminating perfectly in selling the same output as is actually being sold, not the output which *would* be sold if the firm *were* practising perfect discrimination.

[2] Furthermore, the output which it *would* produce if it *were* discriminating perfectly is its ideal output.

Thus if we equate e to 2—by no means an absurdly low figure for, say, a railway company which draws most of its labour from other railway companies located in other parts of the country,—the marginal social productivity is equal to the total profit which would be obtained if the firm were selling its output under perfect discrimination, *minus* the cost of the hired factors. Thus the possibility of a negative marginal social productivity, though far more remote than in the case of irrational preferences, cannot be entirely ignored. In this connection it is to be noted that a high degree of imperfection of competition, while raising the value of the second term on the right-hand side of the above equation, also raises the value of the third term. It can, in fact, be demonstrated that it is very unlikely that a firm earning a positive profit will have a negative marginal social productivity in that extreme case of rational imperfection in which each firm competes for its factors of production with similar firms, subject to the same degree of imperfection of competition as that under which it sells its own output. In the opposite extreme case, in which each firm competes for its factors with industry in general, the possibility of social redundancy is somewhat more extended. If we suppose that in industry in general competition is rather imperfect, so that $e - 1$ is small and the second term is therefore large, while the particular firm produces under conditions of fairly perfect competition, so that the third term is small, the marginal social productivity may be negative even though the firm is earning a positive return. In such a case the existence of the firm involves a sacrifice of internal economies elsewhere which fails to be offset by the somewhat meagre consumers' surplus which its own particular product provides. On the view that competition in industry in general is fairly perfect, such a case is very unlikely to arise.

Returning to the assumption that all entrepreneurs are socially useful—an assumption which we see to be far more plausible in the case of rational than of irrational imperfections, we may now briefly consider the optimum arrangement of entrepreneurs when imperfection is purely rational. We begin with the extreme case in which each entrepreneur competes for his factors of production with similar entrepreneurs. It would then appear to be probable, but by no means certain, that the excess of an entrepreneur's marginal social productivity over his earnings will be greatest where competition is most imperfect. The gain in respect to consumers' surplus will usually outweigh the loss in respect to exploitation, and it is therefore socially desirable to divert

entrepreneurs from those industries in which competition is sub-normally imperfect into those industries in which competition is abnormally imperfect, *i.e.* once again to shift entrepreneurs in the same direction as it is socially desirable to shift the hired factors.

For the other extreme case, in which each entrepreneur competes for his factors with industry in general, the same conclusion holds good with far greater force. The exploitation factor, as measured inversely by e, is now a constant, and we are simply left with the obvious desirability of diverting entrepreneurs into those fields where the consumers' surpluses provided by the individual firms are great.

Once again it is necessary to dispense with the assumption that the factors of production are in completely inelastic supply in terms of natural units. The effect of imperfection of competition is to depress the earnings of any hired factor below its marginal social productivity. Thus the supply of natural units will in general be less under conditions of *laissez-faire* than is calculated to maximise economic welfare, and some method of stimulating the supply is socially desirable. But any kind of natural unit from which to a preponderating extent the entrepreneur ranks are recruited will, if imperfection is on the whole irrational rather than rational, be supplied under conditions of *laissez-faire* on a scale which exceeds the social optimum.

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THE MONETARY DOCTRINES OF PROFESSOR DAVIDSON

THE barrier of language tends to make the flow of ideas as between large and small countries a one-sided affair. Economists in a small country must necessarily be linguists; and before they embark on original work they have usually mastered the recognised classics. But, unfortunately, it is often only after a long time-lag that their important contributions receive due recognition in the outside world. During the last forty years Sweden has maintained a level of scholarship in economic science which compares favourably with that of any other country. Wicksell and Cassel are recognised as being among the outstanding economists of the last generation; and since the War the tradition has been worthily upheld by the younger school. There is, however, another name intimately associated with the development of economic thought in Sweden. Professor David Davidson, who held the chair at Uppsala in the years 1890–1919, deserves to be regarded as one of the builders of Sweden's solid reputation. He founded the Swedish journal *Ekonomisk Tidskrift* in 1899 and still remains its editor. This journal contains a very large part of Davidson's published work; and it has always been distinguished by the high quality of its articles. Last year Professor Davidson celebrated the eightieth anniversary of his birthday; and this is a fitting occasion to attempt to assess the part he has played in the evolution of monetary theory in Sweden.[1]

Before 1890 Davidson had published three theoretical works,[2] viz. an essay on the Laws governing Capital Accumulation (1878), a critical History of the Theory of Rent (1880) and An Inquiry into the Taxation of Income (1889). Special interest attaches to his first essay, for it contains in embryo more than one of the ideas which were later to be worked out in great detail by Böhm-Bawerk. One example is his acute criticism of the "use" theory

[1] Besides his work on monetary theory, Davidson has made important contributions to the study of the theory and practice of tax legislation, and to economic history, particularly the standard work on the History of the Bank of Sweden.

[2] *Bidrag till läran om de ekonomiska lagarna för kapitalbildningen* (1878); *Bidrag till jordränteteoriens historia* (1880); *Om beskattningsnormen vid inkomstskatten* (1889).

of capital associated with Hermann and Knies.[1] Moreover, he sees the significance of the "investment period." Adopting Menger's terminology he points out that, when goods "of the first order" are transformed into goods "'of a higher order,' assuming the period of time during which these goods are bound up in production stretches beyond the length of the existing production period, . . . the production value (productivity) of the goods can under certain circumstances be higher than it would be if no capital accumulation had taken place."[2] As early as 1878 Davidson seems to have had a glimpse of some of the essentials of the modern theory of capital and his essay deserves a place of honour in the history of this branch of economic thought.

1. *Criticism of the Wicksellian Theory.*

The publication of Wicksell's *Geldzins und Güterpreise* in 1898 is rightly regarded as an important landmark. The theory regarding the connection between the money rate of interest, the natural rate and the price level has exercised a dominating influence on present-day monetary and trade cycle theory. Davidson reviewed the book in 1899[3] and hinted that there was a weakness in Wicksell's fundamental thesis. The argument in *Geldzins* was that the value of money would remain constant, that is, the general level of prices would be stable, as long as the loan rate of interest was normal, that is, equal to the natural rate. Davidson was led to attack this conclusion by considering the effects of changes in productivity on the relative position of lenders and borrowers. He asserted that if, for example, productivity were to increase by 25 per cent. and the price level were kept constant, money incomes such as wages and profits would rise by 25 per cent., but incomes fixed in terms of money would be of the same value in terms of commodities as they had been before the rise in productivity. Lenders would therefore not get a share in the increase of wealth. In view of such social injustice he denied that it was "desirable" to keep the price level stable.

Though strongly tinged with ethical considerations, this initial broadside had already hit the mark. The attack was elaborated in 1906 and 1909 in two articles entitled "The Concept of the Value

[1] *Bidrag till läran om de ekonomiska lagarna för kapitalbildningen*, pp. 38–44.

[2] *Ibid.*, pp. 55–6. These ideas were more fully worked out in a subsequent essay entitled "Några teoretiska frågor" (*Ekonomisk Tidskrift*, 1919, pp. 231–59), in which, *inter alia*, he shows the importance for trade cycle theory of the lengthening and shortening of the average period of production (pp. 253–4).

[3] *Ekonomisk Tidskrift*, 1899, pp. 233–40.

of Money" and "The Stabilisation of the Value of Money."[1] In the former he summarised his observations as follows :—"All changes in the general level of prices do not constitute changes in the value of money. When productivity increases, the requirement that the value of money should remain stable demands that prices should fall : when the production of goods increases without a rise in productivity, the same requirement demands that the price level should remain stable. . . . An increase in production may be the reflection both of the increase of population and capital and of a rise in productivity ; and the necessity of keeping these two sets of factors apart renders the task of monetary management very difficult. That management cannot be carried out with as simple an apparatus as Wicksell contemplates."[2]

As against Wicksell's statement that changes in productivity were usually too small to make much difference, Davidson made the somewhat prophetic reply that monetary management had to reckon with the increases in productivity likely to occur in the future.[3] He mentioned in particular the transformation to be expected in agriculture, a branch of production hitherto hardly touched by technical progress. Leaving aside the familiar point regarding the lender–debtor nexus, he summed up his position by taking Wicksell on his own ground.[4] He submitted that, since an increase in productivity enhances the prospect of profit as long as prices are unchanged, the natural rate becomes too high in relation to the money rate. This can only be corrected in one of two ways : either the money rate must be raised or the natural rate lowered. If prices fall of themselves the natural rate will immediately decline and equilibrium will be restored. If the money rate is put up, there will be a fall in prices according to Wicksell's theory. In the one case the money rate should remain unchanged, and in the other it should be raised. In neither case should the money rate be reduced. Thus, by taking Wicksell's theory as his starting-point, he claimed that the practical conclusion that the price level should be kept stable was erroneous.

It is of interest to note Wicksell's defence of his theory. In an article entitled "The Money Rate of Interest and Commodity Prices"[5] (1909), he begins by expressing his fear that the readers of the Journal were getting tired of the abstruse theoretical

[1] "Något om begreppet penningens värde," *E. T.*, 1906, pp. 460–8, and "Om stabiliseringen av penningens värde," *E. T.*, 1909, p. 1.

[2] *E. T.*, 1906, pp. 467–8. [3] *Ibid.*, 1909, p. 20. [4] *Loc. cit.*, pp. 22 ff.

[5] "Penningränta och varupris," *E. T.*, 1909, pp. 61–6; also *Vorlesungen*, Vol. II. p. 227.

discussion. To clarify his position he distinguishes between two different cases.

(1) Assuming the quantity of money to be unchanged, a rise in productivity in itself would tend to depress prices. But the increase in the output of commodities resulting from higher productivity will only come about *in the future*, whereas the new chances of profit *immediately* lead to a greater demand for raw materials and labour (and possibly luxury and other consumption goods as well). Therefore, if the money rate is not raised, there will be a rise in the price level from the very beginning. The banks should accordingly raise their loan rate, thereby restraining enterprise and encouraging saving. He regards this case as being of most practical interest, for there is generally a time interval between the acquisition of more productive instruments of production and the expansion in the output of final commodities.

(2) The other case involves an improvement in productivity which is *immediately* accompanied by an increase in the output of commodities. A fall in the price level is here to be expected; but it will be small and non-cumulative. However, there will be a simultaneous and stronger force in the form of a discrepancy between the money and the natural rates which will tend to raise the price level. "The initial fall in the price level resembles the backward step which a gymnast takes before he leaps forward." He denies the validity of Davidson's assertion that the fall in the price level brings the natural rate down to the level of the money rate so that a new equilibrium is established. If this were true he would regard it as a serious blow to his theory. Wicksell maintains that Davidson's thesis rests on the tacit assumption that real capital increases in the same proportion as productivity. When the price level falls in the first instance, unchanged money wages mean a rise in real wages; but a rise in real wages is only possible if there is an increase in real capital. The Wicksellian theory, however, postulates no change in real capital and real wages. When prices have fallen, money wages also move downwards; consequently, "increased productivity with constant real capital necessarily implies a rise in the real rate of interest, and equilibrium can never be maintained unless the money rate is raised to equality with the real rate." [1] The question as to what the banks should do in the face of the initial fall in the price level is, thus, quite unimportant, because forces are at work which must send prices soaring unless the banks interfere at an early stage in the process.

[1] *Loc. cit.*, p. 66.

Davidson refrained from continuing the discussion, in deference to Wicksell's impression (with which he did not quite agree) that the readers were becoming weary of the controversy.[1] Wicksell had denied that a rise in productivity could lead to a permanent fall in prices with money wages remaining unaltered. If such circumstances materialised, the Wicksellian precept would decree a lowering of the money rate; and that could not fail to inaugurate an inflation.

There can be little doubt that the honours in this contest went to Davidson, and perhaps Wicksell's sudden display of indulgence towards the readers of *Ekonomisk Tidskrift* was his way of throwing in the towel. It is clear from Wicksell's defence that his fundamental proposition holds good only within the strict confines of a stationary state.[2] Under less abstract assumptions it is open to objection. Davidson had revealed a serious theoretical weakness in the position of the "stabilisation" school. The arguments he used in 1906 and 1909 have a direct bearing on the consequences of the policy of the American banking system in the 1927–29 boom. In certain major respects he foreshadowed recent criticism of the Wicksellian theory.[3] He had already begun the task of destroying what Dr. Hayek calls "the obsession that the only aim of monetary theory is to explain those phenomena which cause the value of money to alter."[4, 5]

[1] "Replik," *E. T.*, 1909, pp. 67–8.

[2] It is necessary to point out that Wicksell was not thinking of the "Konjunktur" problem when he introduced his concepts of money and natural rates. He makes a point of this in defending himself against a criticism by Brock. *E. T.*, 1909, p. 61. In their controversy both Wicksell and Davidson were thinking of long-period changes in the price level such as occurred in 1873–96. This is also clear from the inductive examples which Wicksell used in *Geldzins und Güterpreise*.

[3] J. G. Koopmans overlooked Davidson's work when he stated that in the period 1898–1918 only Altmann and Mises had occupied themselves with Wicksell's doctrine, "Zum Problem des 'neutralen' Geldes," *Beiträge zur Geldtheorie*, p. 225, footnote 3.

[4] *Monetary Theory and the Trade Cycle*, pp. 114–15.

[5] The plan for stabilising the dollar which Irving Fisher first advanced in 1911 was acutely criticised by Davidson in an article published in 1913 ("Irving Fishers förslag att reglera penningens köpkraft," *E. T.*, 1913, pp. 87–107). Wicksell's treatment of the Fisher plan (see *Vorlesungen*, Vol. II. pp. 256–8) was originally inspired by Davidson's attack, as he admitted in the following words:—"It is far from my intention to go out of my way to criticise Fisher's Plan, for I have regarded it with a great deal of sympathy from the beginning. In fact, a few months ago I sent him an article for publication, expressing almost unqualified agreement. It was only when I read Professor Davidson's article that I came across what I now realise to be the fundamental flaw in his proposal" ("Anmärkningar till Doctor Brocks uppsats," *E. T.*, 1913, p. 261).

2. *The Application of Theory to War-time Problems.*

The new problems created for Sweden by the War breathed new life into the dry bones of academic controversy. The practitioners of economic science did not seek to escape their responsibilities; and their voices were clearly heard, though they were not always in harmony. The Governor of the Riksbank was left in no doubt as to the views of Wicksell, Cassel, Davidson and Heckscher; and he did his best to defend himself in the pages of the *Ekonomisk Tidskrift*.[1] Those sceptics who despair of the practical utility of economists would do well to study the impact of theory on practice in Sweden from 1915 to the present day. Davidson's advice was sought on more than one occasion by the Government and the Riksbank.

On August 2, 1914, Sweden suspended the convertibility of its notes. After the initial shock of the War there was a considerable inflow of gold from belligerent countries. The Bank adhered to its legal reserve ratio and pursued a restrictive discount policy,[2] but the imports of gold continued.

Davidson pointed out in an article at the end of 1915 that in the circumstances Sweden could do nothing but keep the value of its currency on a level with gold;[3] but this meant joining in the general inflation. He hinted that it would be quite otherwise if the authorities abolished the obligation of the Bank to buy gold at a fixed price. This was the immediate origin of the well-known Gold Exclusion policy. Early in 1916, Moll, the Governor of the Riksbank, communicated privately with the three leading economists, Wicksell, Davidson and Cassel, asking them for their considered opinion on such a step.[4] The replies were favourable; and the experiment came into operation in February 1916. The Swedish currency became free to appreciate but could not sink lower than the value of gold, since notes were still to be redeemable in gold. The economists anticipated that it would be possible to raise the value of the krona above that of other depreciated currencies. They were to be disappointed, because the Central Bank seems to have been quite indifferent to the aims of the theorists. Gold exclusion should have been accompanied by a more restrictive discount policy and a serious attempt to curtail

[1] See V. Moll, " Växelkurs och bankränta," *E. T.* 1915 and " Riksbankenloch dyrtiden," *E. T.*, 1917.

[2] See A. Wennerberg, " Sveriges Riksbank och dess diskontopolitik under och efter Världskriget," *E. T.*, 1924, p. 226.

[3] " Till frågan om penningens värde under kriget," *E. T.*, 1915, pp. 415–23.

[4] See G. Cassel, *Money and Foreign Exchange after 1914* (1922), pp. 79–100.

foreign lending. Moreover, the terms of the Scandinavian Union enabled Denmark and Norway to export gold coin into Sweden and thus nullify the policy. It was, however, an interesting case of an attempt to implement an idea which was only known to a few theorists on the eve of the War.[1]

It was only after the three Scandinavian Governments had agreed in April 1917 to enforce a rigid prohibition of gold exports that the gold exclusion policy could be given a fair chance. But internal inflation still took place. Capital was so scarce in the belligerent countries that there was a substantial margin between the "natural" rate of interest in those countries and in Sweden. Foreign lending was thus proceeding on a large scale. Obstacles were being placed in the way of Swedish imports; but the demand for her exports was practically insatiable.[2] Davidson pointed out that the maintenance of a "normal" rate of interest within Sweden could do nothing to impede foreign credits. Sweden would still lose capital and the Riksbank would afterwards find it necessary to raise its loan rate in order to keep it normal. To raise the rate well above normal would not be advisable in view of the progressive increase in the demand for capital abroad. Banking policy in these circumstances must therefore be accompanied by special measures directed against foreign lending.[3] Davidson prepared a plan for the attainment of this object; but it was never published.[4]

In June 1918 the Minister of Finance appointed a Committee to inquire into the monetary situation. It consisted of three professional economists (Professors Davidson, Wicksell and Brisman) and three bank directors under the chairmanship of the Governor of the Riksbank. The economists and the bankers disagreed about most things;[5] but they were unanimous on one matter. They proposed "a qualitative rationing of credit"

[1] Professor Cassel in his *Money and Foreign Exchange after 1914* (1919), p. 83, wrote: "This gold exclusion was a measure of such importance that the very highest interest will always be attached to it by future writers on monetary history."

[2] According to Wicksell the only way of meeting the situation was through a system of duties on exports and premiums on imports (*i.e.* the sale by the State of imported goods under the import price). In this way the internal price level could be lowered without affecting the exchange rate. See "Medel mot dyrtiden," *E. T.*, 1916, p. 304.

[3] See D. Davidson, "Riksbankens sedelutgivning," *E. T.*, 1918, No. 3, p. 106.

[4] E. Heckscher, in "Sweden, Norway, Denmark and Iceland in the World War" (*Economic and Social History of the World War*, ed. Shotwell), 1930, p. 210.

[5] See Betänkande rörande åtgärder för penningvärdets reglering. (Official publication, 1918.)

together with a stricter regulation of foreign credits. Davidson defended this proposal against the severe attacks of Professor Heckscher by emphasising the serious depletion of Sweden's capital resources and the inadvisability of relying merely on a high discount rate.[1] A Capital Control Board, under the ægis of the Central Bank, was actually formed in October 1918; but it did not come to fruition, as the Armistice completely altered the situation.[2]

Immediately after the War an early return to the gold standard was advocated by Professor Heckscher. Davidson [3] supported Wicksell's view that "to hitch our monetary waggon to a train without knowing where it is going seems to me hardly worthy of a country whose economists, old and young, possess *at least* as profound an understanding of monetary matters as those of any other country." [4] Nevertheless, Sweden led the way in returning to the gold standard in 1924.

3. *The "Value of Goods" and the "Value of Money."*

Davidson developed his monetary theory in several articles published in *Ekonomisk Tidskrift*.[5] To do justice to his doctrine it would be necessary to explain his peculiar absolute cost theory of value which derives from Ricardo; but it is not proposed to attempt it here. All the difficulties of the Ricardian theory are, of course, encountered, but they are not surmounted. He has never given valid reasons for not accepting Wicksell's statement of the theory of value in "Über Wert, Kapital und Rente" and Vol. I of the Lectures, but clings to the idea that "when the value relation between two goods changes, it may be that the absolute value of one of them alters, or that of both in opposite directions, or in the same direction but in different degree." [6] The doctrine of the "value of money" is thus developed in conjunction with the notion of the "value of goods" based on an absolute cost theory.

According to Davidson's conception, the relation of the part to the whole in the case of a stock of goods is different from what it is in the case of money. A stock of commodities is a collection of individual items; but the units in a stock of money have signi-

[1] "Ransonering av kapital," *E. T.*, 1918, No. 8, pp. 267 ff., and "Ransonering av kapital än en gång," *E. T.*, 1918, No. 9, pp. 289 ff.

[2] See Heckscher, *op. cit.*, pp. 234–5.

[3] "Striden om Sveriges myntfot," *E. T.*, 1923, pp. 132–3.

[4] Wicksell, "Växelkursernas gåta," *E. T.*, 1919, p. 103.

[5] 1917, 1918, 1920, 1922, 1923, 1925, 1926, 1931 and 1933.

[6] "Valutaproblemets teoretiska innebörd," *E. T.*, 1920, p. 73.

ficance *only* because they are parts of the whole. An increase in the number of money units is nothing but a splitting up of the whole into smaller parts.[1] He then argues that the problem of the value of money has two aspects : the value of the total stock of money and the value of the monetary unit. Both these can change. The value of the total stock of money will depend on changes in the rate of turnover of the stock of goods per unit of time.[2] The value of the unit of money will alter through a splitting up of the total stock of money into a larger or smaller number of units. The forces which determine the rate of turnover of goods per unit of time are largely independent. But the value of the monetary unit can be arbitrarily controlled, in the sense that the whole can be split up into a larger or smaller number of units.

What, then, is the implication of a monetary policy which aims at giving the monetary unit a constant objective value? It means that money should be "managed" in such a way that commodity prices should always correspond to the objective, but variable, values of the commodities.[3] Expressed in more usual terms, it implies that when productivity rises the price level should fall correspondingly; and when productivity diminishes the price level should rise in the same proportion. In this way the price of the "composite commodity" would vary in the same proportion and direction as the quantity of means of production necessary to produce it. This was a rough formulation of a "neutral" money theory.

In his interpretation of war-time inflation in Sweden Davidson always gave due weight to the "scarcity of commodities."[4] The rise in the price level which can be imputed to this cause is a necessary occurrence and does not involve a fall in the value of the monetary unit in his sense of the term. No change in the money rate of interest is called for, in so far as the price level merely rises in proportion to the change in productivity. If monetary policy were to keep the price level stable, a redistribution of incomes would take place, so that the recipients of fixed incomes would find their purchasing power undiminished. They would

[1] See "Till frågan om penningvärdets reglering under kriget och därefter," *E. T.*, 1923, pp. 216 ff.

[2] The velocity of circulation is determined partly by the rate of turnover of goods during the unit period and partly by habits regarding cash holdings. It is pointed out that velocity varies for different kinds of payments; and it is assumed that in the short run it can usually be regarded as constant.

[3] *Loc. cit.*, pp. 225–6.

[4] *E.g.* see "Riksbanken och penningvärde under kristiden," *E. T.*, 1925, pp. 1–22.

thus suffer nothing from the decline in productivity and their incomes would involve the utilisation of a larger proportion of the country's means of production.[1]

If there is no such change on the side of goods and the price level rises owing, *e.g.*, to the money rate being below the natural rate, there will be a redistribution of incomes to the detriment of the recipients of fixed incomes. This rise in the price level denotes a fall in the value of the "monetary unit" and the remedy for it is a "normal money rate of interest."[1]

It is relevant here to refer to the contribution which Davidson made to the controversy between Wicksell and Gustav Åkerman in 1922. This discussion turned on the difference between the doctrine of the "normal rate of interest" found in Wicksell's *Geldzins und Güterpreise* and the position taken up in the *Vorlesungen.* In the former work Wicksell held the view that every movement of the general price level is to be attributed to a discrepancy between the money and the natural rate: in the *Vorlesungen,* however, he conceded that an increase in the supply of gold or an issue of paper money can lead to a rise in the price level even though the loan rate of interest is "normal." Gustav Åkerman in an article in *Ekonomisk Tidskrift* in 1921 tried to show that the *Geldzins und Güterpreise* doctrine was the correct one.[2] He takes a case where paper money is the only circulating media and the State takes over the savings of the community for unproductive expenditure and pays for them by an issue of paper money. This obviates the fall in the natural rate which the addition to real capital would have otherwise brought about; the savers put the notes in the banks and there will be no rise in the price level unless the banks allow these notes to get into circulation by reducing their loan rate below the natural rate. To complete the argument he maintains that, although the loan rate may be nominally equal to or above the natural rate, there will be a stimulus to investment as long as the "subjective loan rate," in Irving Fisher's sense, is below the natural rate. In this way Åkerman seeks to draw out the logical conclusions of the doctrine, expressed imperfectly by Wicksell in *Geldzins und Güterpreise,* and concludes that the banks by maintaining a "normal" money rate can stabilise the general price level.

Space does not allow us to give a full account of Wicksell's

[1] See "Till frågan om penningvärdets reglering under kriget och därefter," *E. T.*, 1922, pp. 90–114.

[2] See G. Åkerman, "Inflation, penningmängd och ränta," *E. T.*, 1921, pp. 143–62; and 1922, pp. 5–9.

reply.[1] He admitted the weakness of Chapter XI of *Geldzins*, but asserted that the version of his views expressed in the *Vorlesungen* was designed to remedy that imperfection. He conceded that Fisher's concept of a " real rate " was a useful one; but it did not help to explain the *origin* of a price movement. The idea of a " subjective loan rate " assumes that the movement of the price level has been going on long enough to enable the entrepreneurs to form some opinion as to its future course.

Davidson intervened in this controversy [2] in the rôle of an honest broker. He thoroughly enjoyed the spectacle of Wicksell's temper being somewhat ruffled by the awkward appearance of one of the skeletons from his cupboard, and ironically remarked that Wicksell should have been pleased, for whichever side won it would be a Wicksellian victory. Davidson begins by suspecting that Åkerman and Wicksell do not mean the same by " normal rate of interest." Åkerman had omitted to give a precise definition; and if his normal rate denoted that rate which would prevent inflation, then his theory would be correct but would also be mere tautology.

The money rate is normal when it is equal to the marginal rate of return on capital investment. Davidson agrees that a normal loan rate does prevent the injection of new money through the channel of the Bank. But Åkerman's thesis was that new paper money issued by the State in the usual way cannot bring about inflation as long as the Bank keeps its rate normal. This is incorrect. If there is to be no rise in the price level as a result of an issue of paper money, the Bank must simultaneously withdraw a corresponding amount of money from circulation. It can do this only by raising its loan rate *above* normal. In this way entrepreneurs will be prevented from getting access to the current supply of capital disposition, so that the demands of the State can be met out of these resources without a rise in the price level. If the State increases its command over the community's resources through a general income tax and thereby causes a rise in the natural rate, the maintenance of a normal loan rate will prevent a rise in prices. But if the State increases its command by issuing new paper money, a normal rate will not be sufficient to obviate a rise in the price level.

In brief, Davidson thinks that the instrument of the bank rate is an effective means of preventing changes in the value of money *only* in certain well-defined cases, *e.g.* when the initial cause of inflation is a loan rate below the natural rate. Movements of

[1] *E. T.*, 1921, pp. 167–71; and 1922, pp. 10–12.

[2] " Om begreppet normal penning ränta," *E. T.*, 1922, pp. 13–30.

the price level are brought about by many complex causes. When the impetus comes from State borrowing or the inflow of gold from countries experiencing an inflation, a "normal" loan rate is no deterrent. The "value of money" must be distinguished from the "purchasing power of money": in so far as the price level moves in response to factors on the goods side, *e.g.* a change in productivity, the bank rate should be left unchanged. Finally, a policy of keeping the value of money stable may imply instability in the system as a whole. The measures required for stabilising the value of money might inflict greater fluctuation on the economic system than a change in the value of money would involve in similar circumstances.

4. *The Importance of Davidson's Work.*

Davidson has always excelled as a critical mind, and deserves full credit for the penetrating way in which he exposed the weaknesses in Wicksell's monetary propositions. Just as in his first essay he caught a glimpse of ideas regarding the accumulation of capital which were later to be seen in their fullness in Böhm-Bawerk's treatise, he opened up a line of thought in his first controversy with Wicksell which has become a commonplace in post-war fluctuation theory. He ranks as one of the keenest students of Ricardo; but it is a pity that he should have tried to present a revised version of the classical theory of value. This part of his work has had no fruitful effect, though it did not vitiate his contribution to monetary theory. He was able from the beginning to reject the idea that the value of money and the general level of prices are synonymous and correlative concepts, and that the aim of monetary policy should be the stabilisation of the price level.[1] Building on Wicksell's fundamental theory of the "normal" rate of interest he was led to a position similar in essence to that expressed later by Mr. D. H. Robertson in the following words: "The aim of monetary policy should surely be not to prevent all fluctuations in the price level, but to permit those which are necessary to the establishment of appropriate alterations in output and to repress those which carry the alterations in output beyond

[1] It is interesting that Davidson, in a recent article "Knut Wicksell och varuvärdet" (*Ekonomisk Tidskrift*, 1934, Häft I), tries to show, on the basis of quotations from an article written by Wicksell in 1925, that Wicksell had virtually admitted the validity of his doctrine regarding "the value of goods" and "the value of money." Wicksell's article, which is now reprinted in the *Beiträge zur Geldtheorie* (ed. by Hayek), was chronologically his last word on the subject, but was never meant to be taken as a careful restatement of his doctrinal views.

the appropriate point." [1] Moreover, Davidson has made a cardinal point of what Mr. Robertson calls "fluctuations in the desirability of acquiring instruments." [2] Perhaps his greatest achievement was to be the first to show that, to use the words of Professor Robbins, "the proposition that the money rate of interest which keeps prices stable is also the rate which clears the market of voluntarily accumulated capital, breaks down when the conditions of capital supply are either progressive or retrogressive." [3]

We have seen that Davidson attached much importance to the redistribution of incomes that occurs during fluctuation. If he had carried his analysis further he might have contributed more to the essentials of a theory of the trade cycle. His handling of it was originally marred by his ethical preoccupation; and in the later developments it got mixed up with his "absolutist" theory of the "value of goods." It is better, however, to start from the position established by Mises,[4] who pointed out that changes in the money supply affect the rate of interest through the medium of a redistribution of property and incomes. The change in the rate of interest is not, therefore, a direct function of the change in the supply of money: it depends how the distribution of incomes has been affected. A new income distribution causes individuals to apply their resources as between present and future differently from what they would have done otherwise. Mises suggests that the change in the distribution of income due to the fall in the value of money *may* bring about an increase in saving and a lowering of the cost of living.

The significance of this has not been sufficiently realised in discussions of forced saving. Wicksell's view was that, given a fall in the money rate, the forced saving done by fixed income recipients might more than offset the decline in voluntary saving as a result of the lower rate of interest; consequently the process would not be cumulative, but would stop as soon as the increase in the supply of real capital had brought the rate of return down to the level of the money rate.[5] But this overlooks the whole significance of forced saving. What can be reasonably argued is that a lowering of the money rate can bring about shifts within the income structure which will lead to a higher rate of *voluntary* saving; the

[1] *Banking Policy and the Price Level* (1926), p. 39.

[2] *Op. cit.*, p. 94.

[3] Introduction to Wicksell's *Lectures on Political Economy*, Vol. I. (1934), p. xvii.

[4] *Theorie des Geldes* (1924), pp. 358 ff.

discouraging effect of a lower interest rate (assuming that to be the case) may be more than compensated for. If this happens, the element of forced saving in the situation will be prevented from producing a cumulative rise in the price level and a lengthening of the structure of production which would later prove "artificial." It must be added, however, that this argument assumes that, after the initial impact of the fall in the money rate on prices, the entrepreneurs expect prices to continue unchanged in future. If they act on the anticipation that prices will go on rising, the net increase in voluntary saving will be powerless to arrest a cumulative process away from equilibrium.

The direct influence of Davidson's life-work has been confined to Sweden. Wicksell had a very high opinion of his analytical ability and always treated his pronouncements with the greatest respect; and this admiration was shared by the generation of economists represented by Professors Sommarin, Brock, Heckscher, Brisman and Bagge. The younger school of Swedish economists have inherited a rich legacy of thought, and the imprint of Davidson's work is easily discernible. Working with this refined equipment, Professors Lindahl and Myrdal have proceeded to reinterpret the Wicksellian theory of the "cumulative process" and have deepened our understanding of the causation of fluctuation by linking the theory of risk with monetary theory. Lindahl's *Penningpolitikens Mål och Medel* [1] contains a valuable analysis of "the cumulative process" under various assumptions. He chooses as the given end of monetary policy "the diminution of the risks which imperfect foresight implies for economic activity, thereby reducing economic friction to a minimum." He then expounds, in various approximations, the means best calculated to achieve this end. The practical norm for monetary policy which he suggests is that the price level of consumers' goods should vary inversely with productivity. In this respect Lindhal proves to be a good disciple of Davidson. Myrdal, having written a valuable book on risk and equilibrium theory,[2] has devoted himself to a reinterpretation of Wicksell's "natural" rate as a value-productivity rate and has sought to define the concept of equilibrium which is appropriate for the study of fluctuation in a monetary economy.[3] Part of his inspiration is also traceable to Davidson's writings. Space forbids the mention of the contri-

[1] A revised version of this work in English is expected in the near future.

[2] *Prisbildningsproblemet och Föränderligheten* (1927).

[3] "Der Gleichgewichtsbegriff als Instrument der geldtheoretischen Analyse," *Beiträge zur Geldtheorie*, ed. Hayek (1933).

butions of other Swedish economists, *e.g.* Professors Ohlin, G. Åkerman and Dr. J. Åkerman.

As far as the outside world is concerned, Davidson has throughout his life been content to hide his bright light under a bushel; but no one who is acquainted with his work will doubt that he is among the powerful thinkers recruited by economic science within the last two generations.

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EDGEWORTH'S THEORY OF DUOPOLY PRICE [1]

A NEW generation often brushes decisively aside what was once considered the final truth. This paradox is definitely, though somewhat inconspicuously illustrated in the theory of *competition among a few*. Cournot was first to perceive the problem.[2] When Cournot's work finally attracted posthumous attention, Professor F. Y. Edgeworth became his best known critic.[3] So effective was Edgeworth's counter-approach that in the very last years of his life he was still able to say, " The demolition of Cournot's theory is generally accepted." [4] But in the same way that Edgeworth disputed the departed shade of Cournot, so in our generation voices arise to contradict his own spirit.[5] In the face of a second general reversal of opinion, the present article is in part a defence of Edgeworth.

It is important to note that Edgeworth's contribution to the theory of duopoly is conditioned by the assumption of increasing cost. In his paper on " The Pure Theory of Monopoly " he

[1] This article was completed by the writer during his tenure of a Sterling research fellowship at Yale University.

[2] A. A. Cournot, *Recherches sur les principes mathématiques de la théorie des richesses* (Paris, 1838). English translation by N. T. Bacon, with Introduction and Notes by Irving Fisher (Macmillan, 1897; reprinted 1927, 1929). See also A. A. Cournot, *Principes de la théorie des richesses* (Paris, 1863); *Revue summaire des doctrines économiques* (Paris, 1876).

Luigi Amoroso, Italian mathematical economist, was Cournot's most ardent disciple. *Lezioni di economica matematica* (Bologna, 1921), pp. 254 ff.; " La curva statica di offerta," *Giornale degli economisti*, Vol. LXX (1930), pp. 1–26.

[3] F. Y. Edgeworth, *Mathematical Psychics* (London, 1881); reprint by the London School of Economics and Political Science (1932). " La teoria pura de monopolio," *Giornale degli economisti*, July 1897, pp. 13–31; English translation in F. Y. Edgeworth, *Papers Relating to Political Economy*, Vol. I, pp. 111–42.

[4] Edgeworth, *Papers*, Vol. I, p. 111.

[5] Knut Wicksell, " Mathematische Nationalökonomie," *Archiv für Sozialwissenschaft und Sozialpolitik*, Vol. LVIII, Heft 2 (1927), pp. 252–81, especially pp. 267–75; Joseph Schumpeter, " The Instability of Capitalism," ECONOMIC JOURNAL, Vol. XXXVIII (1928), particularly pp. 369–70 n.; Harold Hotelling, " Stability of Competition," ECONOMIC JOURNAL, Vol. XXXIX (1929), pp. 41–57; E. H. Chamberlin, " Duopoly: Value when Sellers are Few," *Quarterly Journal of Economics*, Vol. XLIV (1929), pp. 81–100; Erich Schneider, " Zur Theorie des mehrfachen Monopols," *Archiv für Sozialwissenschaft und Sozialpolitik*, Vol. LXIII (1930), pp. 541–46; Erich Schneider, *Reine Theorie monopolistischer Wirtschaftsformen* (Tübingen, 1932), especially pp. 132–75; Edward Chamberlin, *The Theory of Monopolistic Competition* (Harvard University Press, 1933), pp. 30–55.

featured "an extreme case of increasing cost," one in which there were no costs at all except in the sense that production beyond a certain limit was subject to infinite cost, *i.e.* impossible. A case of gradually increasing cost is treated in mathematical language in his review of Amoroso.[1] The form in which Edgeworth's ideas are expressed, however, is not nearly so important as their content. Therefore, instead of following the unusual diagrams and symbols of his original presentation, a more conventional illustration may be considered.

Let us suppose that a certain uniform commodity is produced for a given market in twelve factories, each subject to identical conditions of increasing cost as shown in Table I. The figures in this table include transportation and selling costs as well as those of physical production. The product is sold to an extremely

TABLE I

Schedule of Costs for each Factory.

Quantity produced.*	Fixed Costs.	Total Variable Costs.	Average Variable Costs.	Marginal Costs.
0	2,000	0	0·10	0·10
2,000	2,000	300	0·15	0·20
4,000	2,000	800	0·20	0·30
6,000	2,000	1,500	0·25	0·40
8,000	2,000	2,400	0·30	0·50
10,000	2,000	3,500	0·35	0·60
12,000	2,000	4,800	0·40	0·70
14,000	2,000	6,300	0·45	0·80
16,000	2,000	8,000	0·50	0·90
18,000	2,000	9,900	0·55	1·00
20,000	2,000	12,000	0·60	1·10

* Units per interval of time. All quantities in the following tables and in the text are to be interpreted in this sense.

large number of buyers, each of whom purchases a very small part of the total. An assumed schedule representing the total demand is shown in Table II. In this particular case 0·60 may be termed the price of perfect competition, for at this price each factory can produce and sell as under perfect competition a quantity (10,000 units—see Table I) the marginal cost of which is exactly equal to price 0·60. The total production of all twelve factories, *i.e.* 120,000 units, is then exactly equal to the quantity demanded at price 0·60 (see Table II). On the other hand, if all twelve factories are combined under monopoly management,

[1] "The Mathematical Economics of Professor Amoroso," ECONOMIC JOURNAL, Vol. XXXII (1922), pp. 400–407.

it may be shown on the basis of the information in Tables I and II that the monopoly realises a maximum profit at price 1·00.

TABLE II

Demand Schedule

Price.	Quantity.
0·40	144,000
0·50	132,000
0·60	120,000
0·70	108,000
0·80	96,000
0·90	84,000
1·00	72,000
1·10	60,000
1·20	48,000

Special attention is invited, however, to the behaviour of prices when productive facilities are divided between two independent combinations. For convenience in calculation let us assume that each combination controls six factories. From Table I may be derived a schedule of costs for each group of six factories as shown in Table III. The managers of the two competing combinations may be designated *A* and *B*. When the market opens, it may be supposed that *A* offers to sell[1] at price 1·00. If *A* maintains this price, and if *A*'s customers all desert

TABLE III

Schedule of Costs for each Group of Six Factories.

Quantity produced.	Fixed Costs.	Total Variable Costs.	Average Variable Cost.	Marginal Cost.
0	12,000	0	0·10	0·10
12,000	12,000	1,800	0·15	0·20
24,000	12,000	4,800	0·20	0·30
36,000	12,000	9,000	0·25	0·40
48,000	12,000	14,400	0·30	0·50
60,000	12,000	21,000	0·35	0·60
72,000	12,000	28,800	0·40	0·70
84,000	12,000	37,800	0·45	0·80
96,000	12,000	48,000	0·50	0·90
108,000	12,000	59,400	0·55	1·00
120,000	12,000	72,000	0·60	1·10

[1] It is implicitly assumed in Edgeworth's analysis of duopoly that prices are named by sellers. Buyers have an indirect influence but no direct voice in the determination of prices. On the other hand, prices in Cournot's market depend upon competitive bidding among buyers, and sellers have no direct voice. For further analysis of this difference see A. J. Nichol, " A Re-appraisal of Cournot's Theory of Duopoly Price," *Journal of Political Economy*, Vol. XLII (1934), pp. 80–105.

him in so far as a sufficient quantity is available at any lower price, it is to *B*'s greatest advantage to sell at a price slightly lower than 1·00, taking all *A*'s business temporarily away from him. Edgeworth assumed extremely minute gradations in price, but no great violence is done to his theory if instead no gradations in price are considered less than one-hundredth of the standard monetary unit. *B* then may be expected to sell at price 0·99. With positions reversed, *A* finds it to his greatest immediate advantage to cut to price 0·98. Prices in accordance with

TABLE IV

Step.	*A*'s Price.	*B*'s Price.	*A*'s Sales.	*B*'s Sales.
1	1·00	—	72,000	0
2	1·00	0·99	0	73,200
3	0·98	0·99	74,400	0
4	0·98	0·97	0	75,600
15	0·86	0·87	88,800	0
16	0·86	0·85	0	90,000
* 17	0·84	0·85	88,800	2,368
18	0·84	0·83	4,738	87,600
19	0·82	0·83	86,400	7,108
20	0·82	0·81	9,478	85,200
21	0·80	0·81	84,000	11,850
22	0·80	0·79	14,222	82,800
23	0·78	0·79	81,600	16,595
24	0·78	0·77	18,969	80,400
29	0·72	0·73	74,400	30,845
30	0·72	0·71	33,222	73,200
31	0·70	0·71	72,000	35,600
* 32	0·70	0·69	37,978	70,800
* 33 ?	0·68	0·69	69,600	40,357

* Indicates step to which special reference is made in the text.

Edgeworth's conception continue to drop, with results as shown in Table IV.

In each of the first steps of the process the manager who has just cut his price takes up all the available business, leaving none at all for his rival. As soon as prices fall below 0·85, however, if the leader in any new price adjustment sells all that is asked at his price, he loses money on part of his sales, as may be seen by comparing Table II and the schedule of marginal costs in Table III. Consequently, in step 17 Table IV and thereafter, the price leader, whether *A* or *B*, may be expected to restrict his sales and meet only part of the demand. Thus the momentarily passive seller in each of these steps retains a part of the business. This part at first is small; but as prices continue to fall, the price leader, restricting his own sales in order to keep his marginal cost down

to the level of his price, leaves more and more business to his rival. The process may continue until at price 0·60 the two competitors share the business equally.[1]

Before price 0·60 is reached, however, one or the other of the two rival managers may perceive that an increase in price has become profitable. Whenever either competitor cuts his price but fails to supply all those who are willing and able to buy from him, the other competitor, instead of offering his rival's customers a further reduction in price, may if he chooses deal only with those unable to buy from his rival, and charge them a higher price.[2] Such procedure is possible in step 17 and every step in Table IV thereafter; but at first, because of the small volume of business thus obtainable, this sort of tactics does not pay. Even when it becomes possible to make a considerable profit in this manner, further reductions in price continue for some time to be more profitable. As prices drop lower and lower, however, the advantage gained by underselling one's rival becomes less pronounced.

Buyers are repeatedly divided into two groups: (1) those who succeed in purchasing at the lower of two prices, and (2) those who do not. A change in the composition of each group may be expected with each new price adjustment, but at any given time each group tends to have at any particular price or over any given range of prices the same elasticity of demand.

[1] The price-cutting process just described creates the impression in some readers' minds that all Edgeworth described was "cut-throat competition." See, for example, the reaction of Dr. Erich Schneider, *Reine Theorie monopolistischer Wirtschaftsformen*, pp. 132–75. Edgeworth, however, anticipated and refuted this interpretation in his own summary analysis.

"The instability is due not merely to the hope of one monopolist to ruin his rival by 'cutting prices,' a case that has often been described, but also to a more fundamental though less obvious cause. The instability does not cease in cases where it is not possible for one monopolist to drive the other completely off the field." (Edgeworth, *Papers*, Vol. I, p. 136.)

[2] Edgeworth first advanced the proposition that perfect uniformity of price is not a necessary assumption in analysis of imperfect competition. See *Mathematical Psychics*, p. 47. Cournot's assumption of one and the same price for both duopolists immensely simplified his analysis, and at the same time divorced it from reality. If two sellers, subject to no external interference, always charge the same price, there can be only two explanations of the fact. Either there is a price agreement between them, or else price is determined by competitive bidding among buyers for the combined offerings of both sellers. In the first case we have monopoly but not duopoly; in the second case, a phenomenon which seldom actually occurs.

In most cases in which sellers charge different prices, buyers also pay different prices—even though offerings are exactly alike. Sales do not necessarily take place at exactly the same time. Presumably there is first a rush to buy at the cheaper price; but a sensible person, finding the article he desires all sold out in one place, does not refuse to buy it elsewhere at a higher price if it is worth that much to him.

Though there may be great variation in the nature of individual demands,[1] nevertheless, in accordance with the law of large numbers, the total demand of each group tends to have the same general characteristics as the demand of the whole body of buyers, and in particular the same elasticity.

In accordance with this tendency a turning-point is reached in the movement of prices when step 32 in Table IV has been completed. At this juncture *B* has sold 70,800 units at price 0·69. This amount is 59/91 of 109,200 units, the total quantity demanded at this price. Then to the buyers who if they could would take the remaining 32/91 at price 0·69, *A* can sell 32/91 of the total demanded at any higher price. A schedule of such amounts is shown in Table V. By interpolation in Tables III and V it may be shown that *A* obtains a maximum profit at price 0·96. At this price he obtains more profit than at any other price included in the schedule in Table V. As shown in Table VI, *A*'s profit at 0·96 is also slightly greater than he can obtain by cutting his price to 0·68. No similar condition has

TABLE V

(Derived from Table II.)

Demand Schedule for A*'s Offerings at Prices above* 0·69 *when* B *is Selling* 70,800 *Units at Price* 0·69.

Price.	Quantity.
0·70	32/91 of 108,000 = 37,978
0·80	32/91 of 96,000 = 33,758
0·90	32/91 of 84,000 = 29,538
1·00	32/91 of 72,000 = 25,319
1·10	32/91 of 60,000 = 21,099
1·20	32/91 of 48,000 = 16,879

TABLE VI

Results of Two Possible Price Quotations by A *following Step* 32, *Table IV*.

Price.	Sales.	Gross Receipts.	Total Cost.	Net Profit.
0·96	27,007	25,926·72	17,739·80	8,186·92
0·68	69,600	47,328·00	39,144·00	8,184·00

[1] Edgeworth simplified his analysis by assuming all individual demands to be exactly alike. The same general results tend to follow even if there is great variety in the nature of individual demands.

previously arisen. At this point, therefore, *A* may be expected to raise his price to 0·96. It is then to *B*'s advantage to raise his price to 0·95. As soon as he does, another long series of price reductions begins; but when either *A*'s price or *B*'s price becomes equal to 0·69, the other competitor will raise his price to 0·96 again. Thus, in accordance with Edgeworth's assumptions, prices tend to fluctuate perpetually within the limits of 0·96 and 0·69.

From a superficial reading of Edgeworth's paper on "The Pure Theory of Monopoly" it is easy to gain a false impression of the range of price oscillation in his market. Edgeworth himself described in detail an initial fluctuation between the level of pure monopoly and that of unlimited competition, but in accordance with his analysis prices by no means continue to move throughout this entire range.

"And so we return to the position from which we started and are ready to begin a new cycle. This need not have exactly the same path as that which we have described. For at every stage in the fall of the price, and *long before it has reached its limiting value*, it is competent to each monopolist to deliberate whether it will pay him better to lower his price against his rival as described, or rather to raise it to a higher, *perhaps* the initial, level for the remainder of the customers of whom he cannot be deprived by his rival." [1]

If we examine closely any particular problem, the narrower range within which Edgeworthian prices tend to be confined may be at least approximately determined. It has been so determined in the problem just discussed. Any formulas to which the answer may be subject are exceedingly complicated; but it may be noted that in general the upper limit of price oscillation is lower than the price of pure monopoly, and the lower limit higher than the price of unlimited competition. Thus 0·96 is lower than 1·00, and 0·69 is higher than 0·60.

Other problems of interest and importance arise if productive facilities are divided among more than two competitors. The twelve factories under consideration may be equally divided among three, four or six independent combinations; and indeed each of the twelve factories may have its own individual management. In all these cases, if no change is assumed in the general behaviour of buyers and sellers, the limits of price oscillation may be determined by the same general arithmetic methods already exemplified. Solutions may be obtained much more

[1] Edgeworth, *Papers*, Vol. I, p. 120. Italics inserted.

quickly, however, by the use of algebra and calculus.[1] At the same time much finer gradations in price may be considered. Let N stand for the number of competing groups. The total demand represented in Table II may also be represented by either one of two equivalent equations, viz.:

(1) $D = -120{,}000\, p + 192{,}000.$

(2) $p = \dfrac{-D}{120{,}000} + 1{\cdot}60.$

The total cost of any quantity s produced in any factory in this problem (see Table I) may be represented by the function:

(3) $\dfrac{s^2}{40{,}000} + 0{\cdot}10s + 2000.$

Each manager controls $\dfrac{12}{N}$ factories. The total cost of $\dfrac{12}{N}s$ units produced in $\dfrac{12}{N}$ factories is:

(4) $\dfrac{12}{N}\left[\dfrac{s^2}{40{,}000} + 0{\cdot}10s + 2000\right].$

Let $\dfrac{12}{N}s$ be designated S. Then substituting $s = \dfrac{NS}{12}$ in (4), and simplifying, we have the total cost of any quantity S produced in any group of $\dfrac{12}{N}$ factories expressed as follows:

(5) $\dfrac{NS^2}{480{,}000} + 0{\cdot}10S + \dfrac{24{,}000}{N}.$

Corresponding marginal cost is represented by the first derivative of (5) with respect to S:

(6) $\dfrac{NS}{240{,}000} + 0{\cdot}10.$

$N - 1$ managers may be supposed in the process of competition to reduce their prices to a general level p_1, their individual prices differing from p_1, if at all, by negligible amounts. At this price or prices they do not satisfy the entire demand, but restrict production so that marginal cost is equal to price. Thus, if S_1 represents the production of anyone of them,

(7) $p_1 = \dfrac{NS_1}{240{,}000} + 0{\cdot}10.$

Solving for S_1:

(8) $S_1 = \dfrac{1}{N} 24{,}000\ (10p_1 - 1).$

[1] Those not interested in the mathematical analysis following may perhaps be interested in its results shown in Table VII, p. 60 below. The symbols, D for amount demanded, and p for price, are adapted from Cournot.

The total amount produced and sold by $N - 1$ competitors is :

$$(9)\ \frac{N-1}{N}\ 24{,}000\ (10p_1 - 1).$$

The total demand at price p_1 conforms with the equation :

$$(10)\ D = -\ 120{,}000\ p_1 + 192{,}000.$$

The unfulfilled demand is equal to the difference between (9) and the right-hand member of (10). This difference may be expressed as follows :

$$(11)\ \frac{1}{N}\,24{,}000[(-\ 15N + 10)p_1 + 9N - 1].$$

Dividing (11) by the right-hand member of (10), we obtain the proportion of the demand unfulfilled :

$$(12)\ \frac{(-\ 15N + 10)p_1 + 9N - 1}{N(-\ 5p_1 + 8)}.$$

With $N - 1$ competitors selling the quantity indicated in (9) at price p_1, it is assumed that the other competitor can fulfill the unsatisfied portion of the demand at any higher price such as p_2. By (1) and (12) his sales S_2 at price p_2 conform with the equation :

$$(13)\ S_2 = \frac{(-\ 15N + 10)p_1 + 9N - 1}{N(-\ 5p_1 + 8)}(-\ 120{,}000p_2 + 192{,}000).$$

Solving for p_2 :

$$(14)\ p_2 = \frac{N(-\ 5p_1 + 8)S_2}{-\ 120{,}000[(-\ 15N + 10)p_1 + 9N - 1]} + 1{\cdot}60.$$

If profits at price p_2 are to be a maximum, marginal revenue equals marginal cost. Thus :

$$(15)\ \frac{N(-\ 5p_1 + 8)S_2}{-60{,}000[(-15N+10)p_1+9N-1]} + 1{\cdot}60 = \frac{NS_2}{240{,}000} + 0{\cdot}10.$$

Now if the manager who raises his price does so at the point where a further slight reduction in price would bring him a slightly smaller profit, we may disregard the extremely small differences involved and set the two possible profits equal. Thus :

$$(16)\ p_1S_1 - \frac{NS_1^2}{480{,}000} - 0{\cdot}10S - \frac{24{,}000}{N} = p_2S_2 - \frac{NS_2^2}{480{,}000} - 0{\cdot}10S_2 - \frac{24{,}000}{N}.$$

To find the particular values of p_1, p_2, S_1, and S_2, we have four equations, viz. (7), (13), (15), and (16). Solving simultaneously :

$$(17)\ p_1 = \frac{5 + 3\sqrt{4N^2 + 1}}{2(3N - 2)} - 0{\cdot}40.$$

$$(18)\ p_2 = \frac{(10p_1 - 1)^2}{300} + 0{\cdot}85.$$

Solutions may also be obtained for S_1 and S_2, but are of no particular importance in present discussion. By assigning to N in (17) particular values 2, 3, 4, 6, and 12 respectively, corresponding values of p_1 may be obtained. These are shown in Table VII together with the corresponding values of p_2.

TABLE VII.

Ranges of Price Oscillation when Twelve Factories are Equally Divided among Different Numbers of Competitors.

Number of competitors .	N	2	3	4	6	12
Factories controlled by each . . .	$\frac{12}{N}$	6	4	3	2	1
Upper limit of price oscillation . . .	p_2	0·964+	0·953+	0·948+	0·943−	0·938+
Lower limit of price oscillation . . .	p_1	0·686−	0·657−	0·642+	0·628+	0·614−
Total range of oscillation	$p_2 - p_1$	0·278	0·296	0·306	0·315	0·324

The surprising feature of price oscillation according to Table VII is that the range of oscillation increases with each increase in the number of competitors. Thus when there are only two competitors, prices tend to fluctuate between 0·686 − and 0·964 +; but when there are twelve, between 0·614 − and 0·938 +. If productive facilities are assumed to be divided among still larger and larger numbers of competitors without any change in the general cost situation or the other assumptions of the problem, the lower limit of price movements approaches the freely competitive level of 0·60, but the upper limit descends only towards 0·93⅓. At first sight, then, Edgeworth's theory of competition among a few does not appear to merge, as does Cournot's theory, into an acceptable theory of competition among many. With any increase in the number of competitors, prices, instead of fluctuating less, fluctuate more.[1] In *Mathematical*

[1] Cf. Edward Chamberlin, *Theory of Monopolistic Competition*, pp. 40 ff. Professor Chamberlin believes the continued instability of Edgeworth's prices to be explained by an inconsistent monopolistic condition, viz. the division of the market into parts at the lower limit of price fluctuation. Edgeworth's market, however, is repeatedly and consistently divided into parts. Before the lower limit of price oscillation is reached, each competitor, dissatisfied with the number of customers his rival leaves him, brings about a new division in the market by an additional price cut. At the lower limit of price oscillation, one competitor, accepting the customers whom his rival leaves, charges them a higher price. This difference arises logically out of past events, and involves no contradiction or inconsistency.

In an attempt to better Edgeworth's theory Professor Chamberlin falls into the same sort of inconsistency of which he accuses the original author. At the lower limit of price fluctuation he introduces competitive bidding among buyers —though elsewhere in his own revised version of the story no such bidding occurs.

Psychics Edgeworth analysed transactions between a few sellers and a few buyers, and advanced the proposition that any increase in the number of either made " contract " less indeterminate.[1] In his paper on " The Pure Theory of Monopoly " he considered dealings between a few sellers and many buyers, but in this case any increase in the number of sellers seems to make " contract " more indeterminate.

In actual practice the increasing range of price fluctuation may apply to a smaller and smaller proportion of the market. With productive facilities divided among numerous competitors, only the most alert and the most venturesome may raise their prices much above the lower level of oscillation; but if all competitors are equally alert, all of the market is equally unstable in accordance with Edgeworth's assumptions.[2]

The speed of Edgeworthian price movements may be expected to change with any increase in the number of competitors. Any downward movement of prices tends to be swifter the more competitors there are. On the other hand, under the same conditions any upward price movement tends to be retarded. Thus, though prices fluctuate more widely when competitors are numerous, prices tend also to fluctuate more infrequently, and when they rise, fall back again more rapidly to a lower level. Upon this basis alone it is possible to reconcile Edgeworth's theory of duopoly with the theory of perfect competition. If prices fluctuate more infrequently with any increase in the number of competitors, eventually they tend towards stable equilibrium.

Fortunately there is still another explanation of the apparent discrepancy. Edgeworth's analysis of competition between two involves an assumption which, though at least partially justifiable under the original circumstances, certainly requires modification when the number of competitors is moderately increased, and must be entirely discarded when the number of competitors is unlimited. When there are only two competitors, and one raises his price above the other's, it is comparatively easy for him to sell to all or almost all buyers who do not succeed in purchasing from his rival, provided his new price does not exceed these buyers' demand prices. Edgeworth assumed full realisation of this possibility by one or the other of his two competitors. As the number of sellers increases, however, it becomes more and more difficult for any one of them to perform a similar feat.

[1] *Mathematical Psychics*, p. 20.

[2] Cf. Chamberlin, *Theory of Monopolistic Competition*, p. 41 n.

Potential customers at any price above the general level are more easily lost in the crowd. Any seller who tries to do business at a higher price has himself more difficulty in being seen or heard. Even if possible buyers come in contact with him, before they pay him his price, they call on other sellers to find out if their offerings have really been exhausted. When there is only one other seller, the temporary exhaustion of other offerings is readily verified; not so when other sellers are many. In the meantime the seller who considers an increase in price is led to reverse his intentions and make further reductions in price. When any seller does increase his price, it is profitable to do so by a more moderate amount. Thus the increasing difficulty of actually transacting all potential business at any higher price narrows the range of price fluctuation, and brings it much nearer the level of perfect competition. No account has been taken of this practical consideration in previous mathematical analysis.

When the number of competitors is unlimited, it becomes impossible for any individual among them to resist successfully a downward movement of price towards the equilibrium level, or to initiate by his own unaided efforts an upward movement from that level. This ultimate elimination of an initial possibility does not lessen the significance of Edgeworth's analysis. In fact it brings out more clearly one of the outstanding differences between competition among many and competition among few. When an unlimited number compete in the sale of the same product, each one to do business must keep his price down to the prevailing market level. On the other hand, when only a few sell the same product, each competitor enjoys a greater degree of liberty in the determination of his own price.

A rising school of young economists is evolving theories of imperfect competition quite different from Edgeworth's.[1] A harvest of new ideas has already been gathered, some of them very unsound. When two or more competitors sell the same general type of product, and one cuts his price slightly below the rest, it has been directly or indirectly assumed that none of the

[1] R. F. Harrod, "Notes on Supply," ECONOMIC JOURNAL, Vol. XL (1930); Joan Robinson, "Imperfect Competition and Falling Supply Price," *ibid.*, Vol. XLII (1932); Edward Chamberlin, *The Theory of Monopolistic Competition*; Joan Robinson, *The Economics of Imperfect Competition*; R. F. Harrod, "The Equilibrium of Duopoly," ECONOMIC JOURNAL, Vol. XLIV (1934); R. F. Harrod, "Doctrines of Imperfect Competition," *Quarterly Journal of Economics*, Vol. XLVIII (1934).

See also Piero Sraffa, "The Laws of Return under Competitive Conditions," ECONOMIC JOURNAL, Vol. XXXVI (1926); Harold Hotelling, "Stability of Competition," *ibid.*, Vol. XXXIX (1929).

other competitors loses many customers.[1] Sellers would be happy indeed if this were always true. Each individual competitor may build up through salesmanship, advertising, location, minor peculiarities of product, personal relationships, and type of service a following not easily estranged; but in addition most markets contain buyers of indeterminate allegiance. To them one brand is not much better than others; one location only a little more convenient; one type of service about the same as the rest. Some buyers have no preference at all for any individual seller or any individual offering. The presence of these *marginal buyers* prevents the practical fulfilment of more than one current theory of imperfect competition. Doubtless Edgeworth's assumption that all buyers are swayed by small reductions in price does not apply to many real situations; but even if a small minority of buyers can be so influenced, the general results may still be much as Edgeworth described.

As an illustration take again with certain alterations the same problem with which the present study begins. Let the conditions now be as follows: (1) The cost of any quantity produced and sold by either of two competitors *A* and *B* is again as shown in Table III. (2) The total demand for the commodity still conforms with the schedule in Table II. (3) Either competitor by lowering his price 0·01 below his rival's can take away from him an *amount* of business equal to *one-sixth* the total amount demanded, but no more. (4) Of the remaining quantity demanded at any given price, one-half is demanded only of *A*, likewise an equal amount of *B*. For simplicity in calculation it is assumed that devoted customers in each case are not influenced by any price offered by the rival seller no matter how much lower it may be. (5) Neither competitor practises any sort of price discrimination.

When the market opens, suppose *A* sells at price 1·00. By quoting a price 0·01 lower *B* cannot take away all *A*'s business, but he can take away a considerable part of it. It is to his immediate advantage to do so. *A* then retaliates with a price of 0·98. Prices continue to fall with results as shown in Table VIII, each competitor in turn taking all marginal business away

[1] The assumption is commonly embodied in a *continuous* demand curve for the offerings of each individual seller. Such demand is more truly represented in most cases by a *discontinuous* curve broken into parts at certain price levels. For further criticism see *American Economic Review*, Vol. XXIV (1934), Supplement No. 1, pp. 30–32; A. J. Nichol, "The Influence of Marginal Buyers on Monopolistic Competition," *Quarterly Journal of Economics*, November 1934. Cf. also Marshall, *Principles of Economics*, eighth edition, p. 105 n.

TABLE VIII

Step.	*A*'s Price.	*B*'s Price.	*A*'s Sales to		*B*'s Sales to	
			Established Customers.	Marginal Buyers.	Established Customers.	Marginal Buyers.
1	1·00	—	30,000	12,000	—	—
2	1·00	0·99	30,000	0	30,500	12,200
3	0·98	0·99	31,000	12,400	30,500	0
4	0·98	0·97	31,000	0	31,500	12,600
23	0·78	0·79	41,000	16,400	40,500	0
24	0·78	0·77	41,000	0	41,500	16,600
25	0·76	0·77	42,000	16,800	41,500	0
26	0·76	0·75	42,000	0	42,500	17,000
27	0·74	0·75	43,000	17,200	42,500	0

from his rival. This advantage, however, gradually becomes much less pronounced in comparison with the possibility of raising one's price and dealing only with established customers. The turning-point is reached upon the completion of step 27 in Table VIII. As shown in Table IX, it is more profitable for *B* at this point to lift his price to 0·98 rather than cut it again to 0·73. In previous steps continued reductions in price have been more profitable. When *B* lifts his price to 0·98, *A* raises his also to 0·97. Another cycle is thus begun, and prices continue

TABLE IX

Results of Two Possible Price Quotations by B *following Step* 27, *Table VIII.*

Price.	Sales to			Gross Receipts.	Total Cost.	Net Profit.
	Established Customers.	Marginal Buyers.	Both Combined.			
0·98	31,000	0	31,000	30,380	19,104·17	11,275·83
0·73	43,500	17,400	60,900	44,457	33,543·38	10,913·62

to fluctuate between the limits of 0·98 and 0·74. Although marginal buyers in this case constitute only one-sixth of the total, the range of price oscillation is almost as great as in the original problem, *i.e.* 0·24 as compared with 0·28.

The main virtues of Edgeworth's analysis, as the present writer sees them, are as follows :—

I. Edgeworth implicitly assumed that when a few are selling to many, only the sellers name prices. Buyers decide whether

to buy or not to buy—and if they buy, from whom and how much. Buyers have an indirect influence on prices but no direct voice. This general condition conforms with reality, as everyone knows, though economists have given it little attention.

II. Each duopolist in Edgeworth's market is at liberty to choose his own price. He is not forced to conform with the general action of the rest of the market as under unlimited competition. His price is not determined by competitive bidding among buyers as in an auction sale, or in Cournot's false theory.

III. Edgeworth broke away from the artificial assumption of an absolute one-price market. Looking beyond his work, taking into consideration certain additional elements of competition, we may still expect to find duopoly prices usually uniform; but the assumption that the prices of two competitors must always be equal is contrary to reality and common sense. This assumption is also a handicap in theoretical analysis, particularly that of intermediate pricing processes and alternative possibilities.

IV. Edgeworth's assumption that all buyers are marginal in their choices between competing products cannot be applied to many real situations, but it emphasises the fact that such buyers exist and the importance of their influence.

V. Edgeworth's theory is significant as a study in disequilibrium. That disequilibrium is perpetual need not be admitted, but disequilibrium is certainly recurrent. Edgeworth's analysis brings to light features of disequilibrium and reasons for disequilibrium not recognised elsewhere.

In certain particulars this article is a defence of Edgeworth, but total acceptance of his theory is by no means advocated. It is subject to the following faults :—

I. The general results do not conform with reality. Duopolists are not observed to engage in perpetual price wars. Duopoly prices are no more chaotic than other prices. It is no wonder that some economists have turned from Edgeworth back to Cournot. Despite the unreality of the process Cournot described, Cournot's general conclusions have the semblance of reality.

II. Edgeworth created the general impression that nothing definite could be known about competition among the few. Strangely enough, this impression discouraged detailed study of his own work. Economists unable to accept Edgeworth's conclusions have struck out in quite different directions, and have not been encouraged to utilise the results of his own pioneering.

III. According to Edgeworth competitors consider profits

only of the immediate present, and not over a period of time. The latter goal is much more sensible.

IV. In actual business buyers do not immediately transfer their patronage from one seller to another because of a difference in price. It takes time for the difference in price to become known; it takes time for buyers to change their buying habits. Thus, although a price difference continued for a considerable length of time may bring about a decided shift in patronage, the immediate advantage gained by one seller in cutting his price is not nearly so great as in Edgeworth's simplified market.

V. An Edgeworthian duopolist does not realise that by cutting his own price he prompts his rival to cut also. As a result, both are worse off than in the beginning. More far-sighted competition has been analysed by Professor Chamberlin.

VI. Edgeworth totally ignored the effect of unstable prices on the original demand situation. In conformity with his approach it has been tacitly assumed in the body of this article that genèral and individual demand schedules remain unaffected by constant variation in price. As a matter of fact, most buyers, observing the price of an article to fluctuate, postpone part of their purchases when the price rises, and wait for it to fall. Thus price oscillation distorts demand, and the distortion of demand in turn tends to eliminate price oscillation. If Edgeworth's sellers, however, are totally lacking in foresight, so also are his buyers.

On the whole Edgeworth's theory is a brilliant mixture of truth and falsity, but those who ignore or deny him are likely to fall into errors themselves.

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RETURN TO CAPITAL INVESTED IN THE WITWATERSRAND GOLD-MINING INDUSTRY, 1887–1932

IN 1923 the late Professor R. A. Lehfeldt read a paper before the Chemical, Metallurgical and Mining Society of South Africa,[1] in which he presented the results of an attempt to "work out the precise result over a certain period" of the amount of the profits made by mining gold on the Witwatersrand. Dr. Lehfeldt, in the paper incorporating his results, rightly wrote that "the amount of the profits made by mining gold on the Witwatersrand is a matter of great importance to South Africa, and is of considerable economic interest to the world; but it is one on which there is very little information to be had, and so, naturally, very contradictory opinions have been held."

The paucity of available information led Dr. Lehfeldt to restrict his calculation to the period 30th June, 1907, to 31st December, 1921, that is, to the operation of the gold-mining industry "within a period after the mining field had become well established." The method adopted by Dr. Lehfeldt "was to suppose an investor, who, on the 30th June, 1907, bought all the shares in the Witwatersrand mines at the market price, who subsequently supplied all the new capital that was supplied, received all the dividends and repayments, and sold out his interest at the market price on 31st December, 1921. What return would the imaginary investor have got on his money?"

During the last four years the writer of this article has been conducting certain investigations in the Department of Economics and Economic History of the University of the Witwatersrand, directed towards examining the financing and economic structure of the Witwatersrand gold mines, the supply of capital to this industry, and its profitability. In the course of these investigations, an attempt has also been made to carry out a fuller analysis of the return to capital invested in the Witwatersrand than the late Dr. Lehfeldt was able to undertake with the relatively incomplete information at his disposal.

In this attempt an endeavour has been made to calculate the exact amount of capital invested in the industry from its

[1] *The Journal of the Chemical, Metallurgical and Mining Society of South Africa*, January 1923.

inception in 1887 up to and including the year 1932, and the total dividends and repayments of capital over the same period.

For this purpose an index was first constructed of every mining company existing on the Witwatersrand of which any record at all was available. There were 900 companies in this preliminary index. Those which were found to have conducted mining operations, or which definitely spent capital funds in order to further potential mining enterprise, were further examined. Every possible source of information was tapped in order to reconstruct their financial history.

For this purpose the actual published accounts of every mining company, for which adequate records were available, were tabulated annually and all the relevant data of nominal capital, issued capital, shares issued to vendors, shares issued for cash, premiums on working capital shares, loans, debentures, working expenditure, working and other revenue, working profits, funds appropriated from profits for further capital expenditure, dividends and repayments of capital, etc., were tabulated annually. The annual data was recorded in such a form that a balanced account was obtained of the financial operations of each company for every year from the date of its registration to the date of its liquidation (including the liquidation accounts), or to December 1932 if the company was then still in existence.

It should be noted that, not only were changes recorded as they occurred, but that the progressive figures were also agreed and reconciled with the annual accounts—thus ensuring an automatic check on the whole of the work done.

Mention may be made of the fact that mine accounting methods have not been uniform over the whole period covered by the investigation (particularly in the earlier years), with the result that adjustments had to be made in the course of the tabulation.

Of the 900 companies in the preliminary index, 736 are accounted for in this investigation. The accounts of these companies were either tabulated or rejected owing to the information available being so unreliable that they could not be dealt with. The remaining 164 companies were excluded on the ground that they did not fall within the scope of the investigation, as they were found to consist of land, estate, financial and investment companies.

Of the 736 companies, 160 were rejected owing to lack of information. In these cases it was impossible even to ascertain details of the distribution of the capital as between vendors

interests and working capital shares, or to distinguish between the nominal and issued capital. The following table gives a summary of the position in relation to the mines which had to be rejected (Table I).

TABLE I

Summary of Mines not *Tabulated*

	Number of Companies.	Nominal Capital.	Issued Capital.
(*a*) Nominal Capital known but no other information . . .	126	£4,253,945	Unknown
(*b*) Nominal and Issued Capital known —no other information . .	13	£689,593	£484,714
(*c*) No information available . .	21	Unknown	Unknown
Totals	139	£4,943,538	—

The table shows that the total nominal capital of the 139 companies amounted to £4,943,538. Even assuming that all the nominal capital was issued it will be seen that the amount is very small as compared with the total capital invested in the industry (that is, the total issued capital including vendors' shares, working capital shares plus premiums on the latter), which amounted, during the period covered by the investigation, to £149,275,270 excluding the rejected companies, and to £154,118,808 including the rejected companies and assuming that the nominal capital of these companies was all issued. There is no need to include a provision for premiums in the case of these 160 companies, as they were nearly all small concerns which existed in the very early years of the industry and the capital was rarely issued at a premium. The average nominal capital of these concerns was only about £30,000.

The rejected companies account for about 3 per cent. of the total capital invested in the industry from 1887 to 1932, assuming again that all the nominal capital of these companies was issued and including this capital in the total capitalisation of the industry. On the same basis it is found that 97 per cent. of the capital invested in the industry was accounted for, tabulated and subjected to analysis in this investigation.

Bearing in mind the long period covered by the investigation, this can be regarded as indicating that the study constitutes a relatively very complete survey of the finances of the gold-mining industry for the forty-five years under consideration.

A special analysis was conducted in the case of all amalgamations and reconstructions of companies in order to arrive at the exact financial changes involved.

The greater part of the investigation is based on accounting records, which are, for all practical purposes, complete. In those cases where complete accounting records were not available in the form of annual company reports, the information was supplemented from a large number of authoritative sources. The supplementary information necessary was obtained from the Office of the Registrar of Companies, from the Office of the Registrar of Mining Titles, from the original statutory returns supplied to the Government Mining Engineer, from the published records in mining journals, and from publications such as Goldmann's *The Witwatersrand Gold Fields*, Goldmann's *South African Mining and Finance*, and Skinner's *Mining Manual*.

Of the 576 mining companies with which the investigation deals, 206 companies were amalgamated, 313 were wound up, and 57 were still in existence on 31st December, 1932.

Various methods of calculating the actual yield from the tabulated data have been tried. Finally, it was decided, for the purposes of this estimate, to adopt the mathematical method used by Dr. Lehfeldt, in a form suited to the data used in this study. The method has been described by Dr. Lehfeldt as follows :—" The average yield is, then, such a rate of interest that all the outgoings, accumulated at that rate, to a given date, will balance the income, similarly accumulated." [1]

Since the following calculation was completed, Professor H. Knight has published a most valuable analysis entitled " Capital, Time and the Interest Rate " (*Economica*, August 1934). In my opinion the calculation of yield to capital in the gold-mining industry and the method used illustrate practically some of the important theoretical concepts developed by Professor Knight. In particular, attention should be drawn to his statement on the essential relations between capital and income. His view (*loc. cit.*, pp. 260, 261) is identical with the one on which my calculations were based.

The calculation was made for three different series of data as follows :

[1] If the payment q (+ ^{ve} or — ^{ve}) be made at time t previous to the chosen date, the rate of interest, per unit i, per cent., is given by the condition that

$$\sum_{r=1}^{r=n} q_r \left(1 + \frac{i}{100}\right)^{t_r} = 0.$$

(1) Equating the total accumulated dividends and repayments of capital (incomings) with the total accumulated outgoings—the outgoings comprising (*a*) shares issued to the original vendors, valued at par, *plus* (*b*) shares issued for cash, and cash received from premiums on shares so issued.

(2) Equating the total accumulated dividends and repayments of capital (incomings) with the total accumulated outgoings—the outgoings comprising (*a*) shares issued to the original vendors, valued at the price at which working capital shares (*i.e.* shares issued for cash), if any, were issued simultaneously. Where no such simultaneous issue took place, the shares issued to the original vendors were valued at par; [1] *plus* (*b*) shares issued for cash, and cash received from premiums on shares so issued.

(3) Equating the total accumulated dividends and repayments of capital (incomings) with the total accumulated outgoings—the outgoings comprising the total working capital shares only (that is, shares issued for cash), *plus* cash premiums received on such working capital shares, and excluding any vendors' shares whatsoever.[2]

The actual results of the respective calculations are given below. It should be noted that the method of calculation adopted was, in the first instance, to choose arbitrarily an anticipated rate of yield, and all the outgoings and incomings were accumulated at this rate. The actual yield was thus obtained by the actuarial method of "trial and error."

[1] This is the basis adopted by the British Income Tax authorities, viz. to value vendors' shares at the issued price of the working capital shares issued at the same time as and ranking equally with the vendors' shares. *See* Transvaal Chamber of Mines' Evidence to the Mining Industry Arbitration Board, 1927.

[2] Method (3) has been used merely as an illustration of the yield if the arbitrary assumption is made that all the profits were made available to the subscribers of the working capital, and that the mining ground and any other property for which vendors' shares were issued was, in fact, made available without cost to the subscribers of the working capital shares (plus cash premiums thereon). Great caution must be exercised in drawing conclusions from this arbitrary calculation. The question of the correct valuation of vendors' interests is very difficult. The vendors' interests in particular mines are often too high (as the subsequent history of the mines shows), but in other cases they are too low. On the average they should tend to approximate to the "present value" of the discounted future "rent" yielded by the minerals in the ground. As Professor Knight says: "(3) On the cost side (ascending phase), the direct outlays incurred will practically always include a proportion, which may be small or large, of payments to pre-existing 'capital items.' These, of course, may take the form of 'rent' in the ordinary business sense, a payment to the owner of a concrete instrument for its use, or of 'interest,' paid for the use of 'capital,' a sum of abstract value" (p. 261).

The final results were as follows :

(1) At $4\frac{3}{4}$ per cent. Outgoings	£659,524,000
Incomings	£595,681,000
Plus Stock Exchange valuation at 30/11/32 of mining companies in existence in December 1932	75,000,000
	£670,681,000
At 5 per cent. Outgoings	£715,701,000
Incomings	£626,244,000
Plus Stock Exchange valuation at 30/11/32 of mining companies in existence in December 1932	75,000,000
	£701,244,000

By interpolation the yield is found to be 4·9 per cent.

(2) At 4 per cent. Outgoings	£575,523,000
Incomings	£514,097,000
Plus Stock Exchange valuation at 30/11/32 of mining companies in existence in December 1932	75,000,000
	£589,097,000
At $4\frac{1}{4}$ per cent. Outgoings	£624,003,000
Incomings	£539,230,000
Plus Stock Exchange valuation at 30/11/32 of mining companies in existence in December 1932	75,000,000
	£614,230,000

By interpolation the yield is found to be 4·1 per cent.

(3) At $10\frac{1}{2}$ per cent. Outgoings	£2,206,265,000
Incomings	£2,134,631,000
Plus Stock Exchange valuation at 30/11/32 of mining companies in existence in December 1932	75,000,000
	£2,209,631,000

By interpolation the yield is found to be 10·5 per cent.

It will be noted that the above calculations have in each case included an amount of £75,000,000 which is the market valuation in November 1932 of the mines in existence in December 1932. This figure was taken in order to obviate a serious difficulty inherent in the investigation, which is the valuation of the existing assets of the mines at the end of the period covered by the study. Probably the most accurate method would be that which would give the exact amount of the capital invested in the mines (after deducting depreciation), that is, the unamortised capital in the accounting sense. It is impossible to obtain this

accounting figure owing to the well-known reason that the accounting procedure of the mines does not provide this information.[1] (There are no depreciation reserves in gold-mining accounts as in those of industrial companies. It is important to note, however, that "plant" and "machinery" are, of course, constantly "maintained" and "replaced" by appropriations from revenue or by debiting working expenses.) The Stock Exchange valuation has the disadvantage that it automatically includes the "present value" of the future dividends computed at the current rate of return expected by investors in this type of investment at the date of valuation, assuming due provision for the redemption of capital invested having been taken into account by the investor.

There is no reason, however, to believe that the £75,000,000 Stock Exchange valuation understates the "real" amount of the unamortised capital of the existing mines at the end of 1932. November 1932 was chosen as this was prior to the influence on the valuation of existing mines exerted by the Union departing from the gold standard.

Another procedure was adopted to avoid the difficulty mentioned above. The assumption was made that the par value of the capital of the mines in 1932 could be assumed to be intact.[2] This figure takes no account of the premiums or other funds used for capital expenditure, the non-inclusion of which is assumed to set off the depreciation of capital which has occurred. It is significant that if the sum of £45,000,000 is taken instead of the £75,000,000 Stock Exchange valuation the results are as follows :—

Method (1) . . .	4·5%
Method (2) . . .	3·8%
Method (3) . . .	10·3%

The theoretical problem involved here is, of course, the crux of the matter. The "unamortised" capital intact in the industry at any arbitrary point of time cannot really be "valued" without assuming (and therefore "discounting") its future income yield. Theoretically if the industry is assumed to close down at a given moment (in this calculation December 31st, 1932), account should

[1] The South African Income Tax procedure includes a "capital amortisation" allowance in the taxation of gold mines, but this figure is not published, and, even if it were available, would not reflect the real amount of depreciation of all capital invested.

[2] *I.e.* the total issued capital (working capital plus vendors') as recorded in the balance sheets of the mining companies existing in December 1932.

be taken of a "residual" or "salvage" value which, as Professor Knight expresses it (see Knight, *loc. cit.*, p. 263), "can be carried over into an account with some other instrument, or into the general capital account of the owner." Actually, however, unless the capital is so carried over there is no means of valuing it. For practical purposes the break-up value of the capital remaining in gold mines which close down is relatively negligible. The "intact" capital only has value in so far as it is assumed that it can be utilised in producing income in the future. The Stock Exchange valuation may include errors leading to over-valuation or under-valuation (present value) of the future income. The estimate, of £45,000,000 is arbitrary and was taken merely to illustrate the influence on the yield when a considerably lower valuation of "intact" capital is assumed.

As regards the revaluation of vendors' shares when issued, at prices other than the par value of such shares, in accordance with the method explained earlier in this article, it should be borne in mind that only a part of the total vendors' shares issued were so revalued, since working capital shares were not by any means always issued simultaneously with the vendors' shares.

The above method of calculation was also applied to the mines in existence in 1932.[1] The results are as follows (A with £75,000,000; B with £45,000,000):

	A	B
Method (1) . . .	6·8%	6·0%
Method (2) . . .	6·0%	5·6%
Method (3) . . .	11·9%	11·7%

Table A in this article gives a summary analysis of the total capital and other funds invested and dividends and interest thereon from the inception of the gold-mining industry in 1887 to 1932.

It is not possible in this article to pursue the many theoretical implications of these results, particularly from the point of view of the light they throw on the nature of long-term fixed capital and the yield thereon, the adequacy of the existing methods by which such long-term capital is invested, and the factors affecting the supply of long-term capital for speculative purposes.

A considerable number of detailed analyses of the statistics

[1] This selected group of mines, representing as it does the "survivors," really shows the yield on capital invested in the relatively "successful" gold-mining enterprises—only a few mines of importance which had been successful had closed down prior to 1933.

are now being made. The results of these will make possible a final analysis of the theoretical implications of the investigation.

TABLE A

The Witwatersrand Gold Mining Industry, 1887–1932

Summary of Capitalisation of Companies wound up Prior to 31*st December*, 1932, *and Companies in Existence* 31*st December*, 1932.

	Companies wound up prior to 31st December, 1932.	Companies in existence 31st December, 1932.	Total all Companies.
1. SHARE CAPITAL:			
(*a*) Shares issued to Original Vendors of Mining ground:			
(i) "Par" Value of Shares issued	£ 26,769,159	£ 26,265,962	£ 53,035,121
(ii) "Revaluation" of Shares issued	32,115,393	37,441,349	69,556,742
(*b*) Shares issued for Cash including Premiums:	29,271,738	66,968,411	96,240,149
2. TOTAL "SHARE" CAPITALISATION:			
(*a*) "Par" value of Shares issued to Vendors (Item 1 (*a*) (i) plus Shares issued for Cash (Item 1 (*b*))	56,040,897	93,234,373	149,275,270
(*b*) "Revaluation" of Shares issued to Vendors (Item 1 (*a*) (ii) plus Shares issued for Cash (Item 1 (*b*))	61,387,131	104,409,760	165,796,891
3. DEBENTURES UNREDEEMED	1,110,560	486,710	1,597,270
4. UNPAID LOANS	1,097,987	1,414,503	2,512,490
5. APPROPRIATIONS FROM REVENUE	12,336,264	50,728,217	63,064,481
6. OTHER FUNDS	—	329,403	329,403
7. GRAND TOTAL CAPITALISATION:			
(*a*) On basis of "*Par*" value of Shares issued to Vendors	70,585,708	146,193,206	216,778,914
(*b*) On basis of "*Revaluation*" of Shares issued to Vendors	75,931,942	157,368,593	233,300,535
8. TOTAL CASH INVESTED	43,816,549	119,927,244	163,743,793

It is worth drawing attention, however, to three of the factors which account for the final estimates of yield given above. These are :—

(1) The very long period of time that elapses between the flotation of mining companies (and the investment of capital in them) and the payment of the first dividend.[1]

[1] Cf. Knight, *loc. cit.*: "The longer the construction period of a given capital good, for the same investment of the services of other agencies, the greater will be the total investment after adding the accumulated carrying charge, and the greater must be the imputed income, for a given service-life or in perpetuity, in order to provide a given rate of return. . . ." (p. 267).

(2) The very large influence of world economic factors (quite apart from local South African factors) which affect the supply of capital for gold mining and which lead to the temporary closing down of developing or producing mines owing to the impossibility of raising further capital for the time being.

(3) The considerable amount of capital that is lost entirely owing to the failure to locate gold in payable quantities, or owing to inadequate methods of finance.[1]

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[1] In conclusion it will be useful to quote the result obtained by Professor Lehfeldt in his calculations. He arrived at a yield of 6·20 per cent. using a method not very different from that of Method (1) in the above calculations. Professor Lehfeldt also expressed the following opinion on the result :—" The yield of the mines is certainly not a high one, considering the erratic nature of the investment, some companies being very rich and others failures ; it is necessary to distribute investment over a considerable number of mines to feel any confidence in the average return. Actually mining shares are usually dealt with on the Stock Exchanges on a basis of something like 10 per cent. yield, and investments in real estate and industrial companies in South Africa probably bring in nearly as much."

PROFESSOR HAYEK AND THE THEORY OF INVESTMENT

In the remarks which follow, I am not concerned with the technical problems of the "structure of investment" actually discussed in Professor Hayek's recent article,[1] and shall take no notice of what may be right or wrong in that connection. I am concerned rather with the fact that the article pretends to do something far more fundamental, but which, as I think, cannot be done. The author asserts (page 208, note 2) that his paper contains implicitly the answers to objections recently made to the Austrian theory of capital, and names among other references a paper of mine published in the volume of *Economic Essays in Honour of Gustav Cassel*. In this connection, he asserts or assumes, on the average of at least once to a page, that he has proved, or is proving, or that it is self-evident and requires no proof, that a change in the amount of capital in society is identical with a change in the "investment structure," an increase corresponding to a lengthening, and a decrease to a shortening, of that structure (cf. p. 211, especially footnote 2; p. 231, etc.). And increase of investment is further identified, if not quite so clearly and emphatically, with a lengthening of the production process or production period, the interval between the time when "labour" is performed and the time when its product is consumed (*e.g.* pp. 208, 209, 223).

If, however, this theory, or either part of it, is anywhere argued, or any reason given for believing it, I have not been able to locate the passage in question. Indeed, on page 225, just preceding another assertion of the point at issue, there is a statement which is very nearly a direct "give-away." It reads: "More goods (or, where possible, more durable goods) of the kind will be produced. . . ." It should be apparent that as regards a relation between capital quantity and investment structure the essential issue lies in the difference between constructing more goods and constructing more durable goods (in response to a fall in the interest rate); also that Professor Hayek is bound to maintain (*a*) that the sole effect would be the substitution of more

[1] "The Relationship between Investment and Output," Economic Journal, June, 1934.

durable for less durable goods (not that this is a contingent possibility, as indicated by the parenthesis); and (*b*) that this change lengthens the interval between production and consumption.

If the question were considered at all, it would surely be immediately evident that in neither of the two senses discussed by Professor Hayek does the investment of more capital necessarily involve, still less is it equivalent to, a lengthening of the time structure of investment—and *still* less to a lengthening of the production process. Moreover, there is no production process of determinate length, other than zero, or "all history." New investment may or may not involve either (*a*) an increase in the average durability of the goods involved in economic activity, or (*b*) an increase in the average construction period for such goods. It is to be assumed that, other things being equal, an increase in investment would involve both an increase in the amount of goods of the same kind and the construction of new kinds (see quotation above from Hayek, p. 225) according to what happened to be most *profitable*. "Possibility" is not in question, as generally in economic matters. More goods of the same kind would mean no permanent change in either investment function or output function, as defined by Professor Hayek, and new kinds would mean changes in both directions nearly at random, as regards both period of construction and durability.

It is true that there is a partial, *temporary* exception, in connection with an expansion of production not associated with any change in the composition of the product or in technology. If such an expansion takes place in perfectly rational order, there will be, *temporarily* (while the expansion is taking place, but not after it is completed), a slight increase in the proportion of goods in the earlier stages of processing operations, in comparison with later stages. It is to be noted, too, that there is little rigour in the complementary relationships between goods representing different stages of a given process, that *inventories* play a large *and flexible* rôle at every stage.

There is also a presumption, though no necessity, that both the average construction period and the average durability of wealth items will increase somewhat, though in no determinate degree, with an increase in the proportions of wealth to (labour and to) total income in a society. The reason is that, on the one hand, increased durability is *one way* of investing more capital and securing more income (because the annual deduction from gross yield for depreciation is reduced); and, on the other hand, interest during construction is one element in cost, and would probably

increase along with other costs; and especially, a reduction in the cost per unit of time, through a lower interest rate, might well lead to an increase in the time. In both cases the particular element of time is one among a practically infinite number of variables, and the relative importance of the effects in question in the total of effects will be measured by a corresponding fraction. It is presumed, too, that any increased use of capital will find its expression in part in the making of altogether new products, and the time relations in this connection are entirely unpredictable.

For the general theory of capital, and for appraising Professor Hayek's claim mentioned above that he has met the objections to his theory, to which he makes reference (notably those of the present writer), the question is whether increasing the amount of capital invested lengthens the production process, rather than what is its effect on the investment structure. This general theory of capital is, of course, that promulgated by Böhm-Bawerk and his followers and generally accepted and taught in the past generation.

On the face of it, there must be plausible reasons for holding that the use of more capital is equivalent to the use of more time in production; otherwise the doctrine would not have been so generally expounded and believed. It unquestionably requires time to construct capital goods, and since these are subsequently used in processes requiring time, to make a product, and are more or less typically used up, it is natural to consider their production and use as an indirect in place of a direct application of the productive capacity going into them, and to consider the time involved in their creation, during which no final product is forthcoming, as added to that of their use to form a total production period for the final product. Reasonableness is harder to discover in the doctrine that labour produces capital in any sense not just as valid reciprocally, but this also is generally accepted by many of the best economists.

A brief statement of the reasoning which shows this entire procedure to be false may start from the personal statement that I myself completely accepted it for years, taught it in class lectures and expounded it in text materials manifolded for student reading, and of course it was never questioned by the "innocents" who were the victims.[1] Realisation that the whole argument is

[1] The theory of profit developed in my book on Risk and Uncertainty rests upon the general view of the entrepreneur or business unit buying productive services "now" and selling the products in the future, and the theory needs to be entirely reworked. Profit must be computed with respect to some definable

fundamentally wrong came through working over the meaning of the wage-fund theory, particularly as expounded by Smith, in relation to Böhm-Bawerk's defence in the last few pages of the *Positive Theory* against the self-accusation of being a wage-fund theorist. Let us glance at this original form of the theory.

Here, neglecting "land," it was argued that the capital produced in one year, thought of as food and other provisions for the use of labourers, supports the same amount of labour the next year, while the original capital is being reproduced. There is here, in the first place, a real and definite "cycle." Moreover, if in such an agricultural situation some crops are biennial or require several years to produce, their value will be increased accordingly by accumulated interest. And it is evident that if plants requiring more years to mature are to be substituted for others growing in a shorter period, a greater accumulation of the final product will be necessary to initiate and to support the operations (two different matters !), and the yield of the more slowly maturing crop will have to be greater to induce men to make the change of introducing it. This is undoubtedly the logic of the Böhm-Bawerk theory, which further assumes that the construction and using up of auxiliary instruments such as tools and machinery is equivalent in principle to the alternate production and consumption of supplies for the use of labourers. But such a production period explanation of capital is reasonably sound only with reference to assumptions which are almost entirely false

basis, either a dated interval of time, or a particular item of product, or to a project or venture somehow defined. It is, of course, the first of these which is actually and in general necessarily adopted. In any case, the essentials work out in the same way. The *crucial* element in the profit problem in a society in which capital is employed has to do with asset values. It is a question of (expenditures and receipts and of) the relative value of assets at the beginning and the end of the accounting period. For any basis other than a time interval, the elements will be (direct charges and credits to a particular account, together with) any and all effects upon asset values which can be attributed to the project or entity with which the account in question is kept.

The main point for emphasis is that the outlays and returns compared to determine profit are not separated by any time interval, but belong to the same accounting period, however short it may be. For any outlay in business or production the corresponding return is not in the future, but contemporary. Time and uncertainty enter into profit in a different way altogether—namely, through the capital account, or specifically, through inventories and depreciation. But capital itself is always a matter of anticipation to the infinite future. Of course the concrete anticipation may relate to capital value at a future date rather than to perpetual income, and the capital may at various times and to a greater or less extent assume for the individual owner the particular form of money; but neither fact affects its character of a perpetual anticipation. This comes to be limited only if business in the entire system is conducted on the anticipation of a universal disinvestment.

to the facts of modern industrial life, and cases which it reasonably fits are obviously special cases under other principles having general validity.

Even with reference to such primitive agricultural conditions the really critical student (such as hardly exists) might have had disturbing queries in connection with treating quantity of capital as a matter of length of production cycle. In fact, the quantity of the capital bears no simple or definite relation either to its durability or to any definable time interval. Taking population as given, raising *more* plants of the *same* growth period will also require more "stock," but *will not* affect the length of the cycle, while the *addition* to total production of new varieties of *shorter* growth, say yielding two harvests per year instead of one, will involve an increase in the capital, while *shortening* the average cycle. It will, moreover, require time to make the change in all these cases, but additional capital is involved in very different ways for lengthening the cycle and for increasing production without this lengthening, and the transitional relations are different from those of the new routine when established. In the third case, which is intrinsically as probable as the other two, production may be maintained with a shortened cycle, and capital released or production increased and the same amount of capital used. The fact that time is required for changing from any system to any other is confused with change in the length of the cycle itself, is one of the basic fallacies of the modern theory. It will be noted, too, that the service life of capital goods in the form of an annual crop of supplies for the support of labourers is not due to any intrinsic quality, but simply to the production period for a new crop. The amount of supplies which last one year is highly variable with the seasons, and will change (for a given population) with any change in productive efficiency and living standards (leaving the cycle unaffected).

The crux of the wage fund-situation is first that the capital, while constant in amount, passes by investment and disinvestment through a real and regular physical cycle; and second, that it could be said to be produced by labour, if capital constituted support for labour at a fixed level (as the classical economists always really assumed),[1] or if, at least, variation in the level of

[1] This involves rejection of the wage-fund doctrine as a theory of *wages*. The wage theory of the classical system was an "absolute" standard of living theory. Its basis was the assumption that the employer (miscalled capitalist) gives the labourer some fixed amount (not fraction) of the product, which is necessary to enable him to live and work, or perhaps a merely conventional payment, in any case one determined in some absolute manner, unrelated to competitive bidding

support or standard of living for labour were not associated with any variation in the output of the combination. In fact, however, labour is also produced as well as "maintained" by capital (if there is any difference), and there is no real priority either way, even if we go back to the historical beginning of economic life.

It is only under the arbitrary and absurd assumption that capital is eaten up at a fixed rate (such as the fixed scale of support for labour) that there is any correspondence between a quantity of capital and the length of a productive cycle. Under competitive conditions, where alone quantity of capital is at all definite, the quantity is the capitalised perpetual net income of any capital good (after full maintenance, including replacements) and is *also* its cost [1] of production, which includes a capital charge. Thus both these magnitudes involve a rate of return, which is "determined" by their equality. In determining both construction cost and service life, time is one factor or dimension among a practically infinite number, and quantity of capital may and does vary quite independently of either of these time intervals. *Caeteris paribus*, it of course increases with either, according to the compound interest formula.

It is if possible even more fatal to a production period theory of capital that no such period can be defined under modern conditions, either before, or after, or during an increased application of capital. The sum of the construction period and service life averaged for individual capital instruments is neither determinate in itself nor significant for theory. Even in 1776, provisions for

among purchasers of labour, and hence unrelated to product value. Only in such a way could a residual theory of the capital share be given foundation. The "system," then, was this: First, land gets its differential or residual product. If this is stated so as to make any sense at all, it means a marginal-productivity theory for labour-plus-capital, and the residuum is easily seen to be identical with the marginal product of the land itself. Second, labour gets what it "has to have." And third, capital gets the final residuum. And this nonsense passed for an economic theory of distribution for a century, until Jevons and Menger demoralised it without seeing much as to how a real distribution theory was to be built. This achievement had to wait at least two more decades, or until Wieser, Hobson, J. B. Clark, and especially Wicksteed, gropingly indicated the circularity and symmetry of the relations. If economists had known the rudiments of analysis as put in shape by Leibniz, Newton and others a generation before Adam Smith was born, the history could have been more pleasant to look back upon. But the only theory which makes sense at all is still rejected by a large fraction of the teachers of economics, as well as indignantly by labour leaders and reformers; and it is not in the least degree understood by either the men who manage business or those who make laws, most of whom still believe that labour alone is really productive.

[1] More generally, where conditions are not stationary, the estimated cost, discounted for uncertainty, of any new item yielding the same net perpetual income.

the support of labourers—reproduced by labour, or by labour and land or even labour, land and capital—annually or in any other definite period, was only a part of capital. And even for a strictly interpreted wage fund it is arbitrary to call any point in the cycle a beginning or an end; it is a hen-and-egg sequence. Under modern conditions there simply is no cycle. It cannot now escape observation that " capital " is an integrated, organic conception, and the notion that the investment in a particular instrument comes back periodically in the form of product, giving the owner freedom to choose whether he will re-invest or not, is largely a fiction and a delusion. To show this conclusively it should suffice to mention the case of a part of a machine. The part cannot be liquidated without liquidating the machine. And the machine as a unit is in a similar sense a " part " of an integrated productive organisation which is not bounded by the scope of " plant " or firm, but extends outward indefinitely to indeterminate limits. Moreover, the capital structure and every unit in it is typically planned to perpetuate itself, and not for liquidation.

The animus underlying Smith's theory of capital was plainly the downright fear that the owners of capital might eat it up without replacement. (And this is, if possible, even clearer in Mill.) There never were serious grounds for such a fear, though the *difference and even opposition between the two interests, of* maximising consumption and providing for the future, ought to be stressed. But under modern conditions the possibilities of liquidation without serious loss are very limited, and the possible scope and speed of liquidation are only remotely related to the normal durability of the physical thing (or other " condition ") in which any increment of capital is invested. In a stationary or progressive society, small increments are indeed liquidated from the standpoint of the individual owner (consumed); but no real liquidation from an aggregate viewpoint is typically involved in the process, and real liquidation, into consumption, is hardly in question. The individual owner desirous of consuming any increment of capital naturally sells out at full value (for future production, above maintenance including replacement) to some other owner, and the productive organisation is not affected. In connection with the business cycle, and the depression problem in particular, the liquidation which is at issue is almost entirely conversion into *money*, not into current consumption. Failure of physical maintenance sometimes results from the helplessness of owners, and is connected with the unexpected loss of earning power consequent upon economic disorganisation. This con-

fusion between real liquidation and pecuniary liquidation, or saleability—which is not liquidation at all—needs fuller consideration. By way of preparation, it is needful to pass in more systematic review some of the essential facts in the problem of capital.

1. The most important fact requiring clarification is the nature of capital *maintenance*. This topic is a detail under a general consideration which is the source of much confusion in economic analysis—namely, the necessity of a clear distinction between stationary conditions and growth (increased provision for want-satisfaction for a given population). In a society which is maintaining or increasing its capital (per capita), all production of capital goods axiomatically represents either replacement or growth. (The situation in a retrograde society would have to be considered separately, but involves little change in the reasoning.)

No rational analysis of economic process is possible without making a sharp distinction between the "production" of "plant"—meaning *new or additional* plant (and properly including both the material and the human elements) and production in the sense of using plant to produce output. Use of plant in the production of the output (of *services*) consumed in any time interval must include the maintenance of plant, and this may involve replacement of particular items of plant. Obviously, if the plant "used up" in any interval is not maintained, the consumption of that interval is to a corresponding degree not produced in the interval, but represents the eating up of resources existing at its beginning (a process of disinvestment). The least experience with, or knowledge of, accounting must certainly make this clear, but it should be self-evident without even that elementary preparation.

Obviously, too, "replacement" of any concrete item of plant is, as already suggested, an accidental, technical detail in maintenance. What we call an item of capital itself is largely arbitrary. If any item is replaced bit by bit, the operation is correctly seen to represent routine maintenance, and the distribution of replacement through time does not change its theoretical character. The only reason for ever taking notice of replacement is to effect uniform distribution of cost and return from the standpoint of a particular business unit. If the construction period is comparable to the service life, the technical activity itself is necessarily distributed. Many plant items last indefinitely without any maintenance expenditure distinguishable from the costs of

operation or use of the items in question; another large fraction lasts indefinitely under purely routine maintenance, such as oiling, painting, cleaning and the like; another large fraction is permanent except for replacement of particular parts, which may be an insignificant fraction of the entire item; a fourth fraction is replaced piecemeal, as already suggested, with no particular date of superannuation (and in reality this category includes all replacement of material things); finally, a very large fraction has no natural or physical limitation of life, but may or may not pass out of use through supersession, in connection with technical and other changes involved in social evolution. Analytically, not only is all reproduction of wealth items (capital goods) included in the category of maintenance, but maintenance itself is only for special reasons, if at all, to be distinguished from other forms of "operating expense" which represent the division of joint product with the other agencies, physical and human, co-operating in production with the item in question. An analytically correct designation for new investment or disinvestment, from the aggregate standpoint, would be over- and under-maintenance respectively.

The consumable output of any "plant" or other productive organisation in any time interval, however short, assuming full maintenance, *i.e.* no disinvestment, is produced in that interval. Production in the sense of utilisation of a given plant and consumption of the product are simultaneous, and the "period of production" of consumed output is zero. The time required to put any particular unit of material through any physical process has nothing to do with the case, since it is a part of the production of any portion of output to maintain the plant involved, in its original condition; and plant maintenance includes replacements. This applies alike to materials which render final services, or are said to be "consumed," to raw materials, and to "auxiliary" goods, machines, tools and the like, which contribute to any quantity of output and which the consumer never sees.[1]

[1] The basic fallacy of the Böhm-Bawerk theory of capital is a twofold one which has vitiated the entire theoretical system of classical economics. Production is viewed as production of wealth, and wealth is viewed as concrete things. In reality, what is produced, *and consumed*, is services. The production of any service includes the maintenance of things used in the process, and this includes *re*production of any which are used up. Apart from such reproduction, really a detail of maintenance, things are "produced" only when added to a total stock. (This was seen by Mill, to the confusion of his definition of production—*i.e.* of productive labour—which refused to include services. See *Principles*, Ashley edition, p. 49.) Moreover, the creation of an addition to wealth is production only in an accounting sense; for there is no corresponding consumption, either

On the other hand—in contrast with production as the correlate of consumption—the creation of any addition to plant is, at least "theoretically" (meaning in so far as correct accounting is possible), a process having a definite beginning and end, and hence occupying a definite time interval. The time required to produce the entire plant in use in any society at any time is simply its entire past history—or all history down to some antecedent date at which growth may have stopped. Regarding the social plant, however, some explanation is necessary as to the part to be *called* "capital," and the same explanation will make it clear that there can be no sound distinction between "primary" and "secondary" factors of production.

2. At any moment, or "as of" any particular date, and with reference to economic use and value, everything in existence which bears or represents productive capacity is without exception primary, *given*; viewed historically, all have been produced, in the economic process as a whole, extending down from the beginning of economic history. It is true that different items are in various degrees produced under "economic" conditions, *i.e.* by the use—in the case of creating new wealth, the investment—of existing resources on the basis of complete foreknowledge, and quantitative estimation in purely economic terms, of the results to accrue in the future from such investment. In "free" society, the human resources are presumably to a relatively minor extent produced under these conditions; and in the production of "property," including real estate, mineral workings, etc., rational foresight and the pecuniary motive control in varying degrees. It may be true that particular items are simply "found," without any planned economic expenditure; but such finding must be accidental, unanticipated, or the competitive struggle for the opportunity of finding will itself tend to involve an investment equal to value realised. (The moral significance or social pro-

in the same interval or at any future time, as long as the wealth (in any physical form) is used to *produce* consumed services.

Secondly, wealth, which is identical with capital, can be treated quantitatively only by viewing it as capacity to render service. A service is measured by its economic value (equal to relative marginal utility) and wealth by *capitalised* service value. Capitalisation is most naturally and realistically conceived as involving the transformation of all service-income from wealth which is not intrinsically permanent to a perpetuity basis by "depreciation." The quantity of wealth, or capital, in any item is the value of its net perpetual income, whether the life of the concrete item is zero or infinite or anything between. (Regarding the rate of capitalisation, see above, p. 82; also, the article "Interest" in the *Encyclopedia of the Social Sciences*, and an article in *Economica* for August 1934, referred to at the end of the present paper.)

ductivity of the investment is a separate issue.) The relation in production between various types of agencies is one of strictly mutual complementarity.

3. In "free" society, the creation of productive capacity in the form of human beings or human qualities is not *called* "investment," and the result is not *called* "capital." This usage is scientifically correct, because in free society human beings—the "things" bearing or embodying productive capacity in the form of "labour"—cannot be actually bought and sold, or their services mortgaged, or made the subject of an enforceable contract for a long period, and hence no definite money value can be placed upon them. They are not quantified and are not "wealth." The human being has no economic value to anyone but himself, and he has no reason for keeping a capital account with himself, even if it were possible to do so with any degree of accuracy. In connection with human beings, it is therefore impossible to distinguish among the three forms of consumption (*a*) for enjoyment and (*b*) for the purpose of maintaining productive capacity or (*c*) that of adding to the latter. All consumption directly by human beings, since it does not affect capital values in the marketable sense, has to be treated as ultimate consumption, even though we are well aware of the mixture of ends actually involved.[1]

4. Every new increment of investment, whatever physical or other form it may take, is added to an organised productive system. In fact, this is true in a doubly complex sense. In the first place, practically without exception, it will be added to some kind of more or less distinct primary technical production unit, a "plant" in the narrow sense (if not to a particular individual "machine"). But this individual plant will be technically interrelated with other plants, in both a "horizontal" and a "vertical" series. In the second place, any new increment of capital is the property of some owner, individual or corporate, and its rôle in production, and more especially in changes in production, will be profoundly affected by these ownership relations. In consequence, as noted above, the replacement of any physical item of equipment has in greater or less degree the character of replacing a part of a machine. The cost, yield, and value—*i.e.* the quantity—of an investment item or increment, reside largely in organic relationships, rather than in particular physical things or conditions.

[1] It is to be noted, however, that there is a form of capital, called "good will," which is created by investment, and owned and bought and sold, the real substance back of which is a state or attitude of human beings.

5. Enough has been said to make it clear that neither of the processes discussed by Professor Hayek in connection with the structure of investment (*i.e.* neither changes in the durability of goods nor changes in their construction period) exerts an identifiable effect on a definable " period of production " in society as a whole. Moreover, they are similarly unconnected with quantity of investment, and quantity of investment is likewise unconnected with any production period. Correspondences in this field are limited and accidental, without theoretical significance for the nature and rôle of capital. It is extremely difficult to give any intelligible meaning to a " period of production," and it certainly has no meaning of the sort assumed in the Böhm-Bawerk–Hayek theory of capital. The production period for consumed services, if the expression is to be used at all, is zero, while the production period for the capital equipment of society is all past economic history.

It is true that in production particular materials go through technical processes and exist in the form of particular named things for intervals which can be *more or less* definitely dated as to beginning and end. If a particular method of identifying and naming the things and dating the life termini of each could be agreed upon, and if the list itself remained unchanged, it would be possible to speak of a change in the average length of all such processes.[1] Both these assumptions are widely contrary to fact, and the period in question would have no meaning for economic analysis if determined. A practically indefinite number of " things," in every relation of simultaneity and succession, are involved in the production of any increment either of satisfaction or of wealth. There is also more or less used in business management discussions a notion of an average " turnover " of investment. This might be defined in several different ways and is not scientifically usable even for accounting purposes.[2] But none of these concepts is a genuine average, and none of them either corresponds to the Böhm-Bawerk conception of a production period, or has any significance for the theory of capital; none of them will at all necessarily increase in length with an increase in total investment.

If an account with a particular " thing " is set up and kept

[1] The mode of averaging would be restricted by the fact that items approach zero and infinity as limits.

[2] In the ECONOMIC JOURNAL for March 1934, Marschak very neatly shows that the conception of the production period, developed by Mr. Gifford (ECONOMIC JOURNAL, Dec. 1933) reduces to one of these possible turnover formulas, namely capital divided by total income—incidentally one of the least meaningful.

from the moment it begins to affect economic plans to the moment it ceases to do so, and even if the end of the interval really represents approximately complete liquidation into products already consumed—it is evident: First, that no assignment of a time interval can be made either (1) to the production and consumption of the increment of output consumed in any small increment of time, or (2) to the period of investment of the increment of resource services expended in any small increment of time. (Professor Hayek in effect admits this in his paper.) Second, it is also evident that if the capital-creation-and-use in question is profitable at all, the time required to produce the total amount of output yielded before final liquidation is probably *decreased* by the project. (If the product is unique this is true of its value.)

6. Exceptionally, if ever, strictly speaking, is real liquidation of a concrete item into consumed product in question, and only within fairly narrow limits is it possible. Where an enterprise as a whole is initially planned for liquidation (closing of its books) at a foreknown date, a part of the equipment used will be planned for the life of the enterprise, and another part not amenable to this treatment will be planned primarily for the largest possible recovery or "salvage" value. Even then, capital is typically invested in some other form as it is written off out of its gross yield. In general, capital investment is planned for perpetual maintenance, as capital, including any necessary replacement by items of some kind. Possibility of liquidation, and occasionally the fact, is important to an individual, but normally this means sale to a new owner. Mobility of investment is important both technically and economically; but the relation of construction period and service life to mobility constitutes two distinct problems (see below, section 8).

7. With reference to a new venture of any kind, which represents a net addition to capital—whether it is a new enterprise or plant, or a nominally distinct concrete device, an "improvement" in any existing item, the creation of good will, or whatever form it may take—the interval between the decision which is the starting point of the venture, marked by setting up an account with it, and the date when the result as a productive unit begins to operate at something like normal capacity, is more or less determinate. This is the construction period in the proper, accounting sense, for the item. It is a fallacy to treat this interval as a part of the production period for the output subsequently made by the aid of the capital produced. This might be reasonably done only if either (*a*) the entire future output of the investment

increment through all time is considered as a unit, or the investment is really liquidated and consumed, which implies a general net liquidation of the economic system. In any case, the entire social equipment in existence when the venture is started—accumulated through all past time—is included in the "primary factors" used indirectly through producing the new capital increment, which means that technically the production period is all past time. The fact that making an investment requires time no more adds to the production period for any subsequent product of any "unit" to which any increment of investment is added than does the fact that disinvestment (see next section) requires time mean that that time, if it could be determined, would be added to the production period for the subsequent output of society, or of any definable unit of capital from which the particular decrement is subtracted.

In any society which as a whole maintains its total capital quantitatively intact, all liquidation is in effect transfer of investment from one holder or one form to another holder or form, or both.[1] No particular item of investment once made and incorporated into the productive system of a social economy can ever be said to be liquidated at any particular time, and this would remain true if the end of the world could be foreseen by any interval in advance, and if the entire system went through the most rational and complete possible process of liquidation. Thus the duration of an investment is to be completely separated in thinking from the durability of any particular thing or group of things in which the investment is "embodied." In general, the duration of all investments, in a society which is at least fully maintaining its total capital, is infinite, even though the investment "in" a particular thing, or the investment "owned by" a particular individual or corporate person, is liquidated, either through sale or through consumption of the replacement fund.

It is also to be emphasised that the amount of capital which can be withdrawn from any investment by under-maintenance has no definite relation to its cost of production. It is largely relative to the speed of withdrawal; but neither the amount "disinvestable" nor the possible speed of disinvestment has any

[1] The notion of maintaining any capital quantitatively intact cannot be given exact definition; but this limitation applies to all quantitative analysis in economics, and the notion itself is clear and indispensable, and measurement, even, is fairly accurate. For most problems, moreover, the total in an absolute sense is not important; an addition to or subtraction from one account not involving a directly offsetting subtraction from or addition to some other is all that need be identified.

definite relation, either to the construction period or to the "normal" annual maintenance charge. Amount and speed of withdrawal are both further relative to distance and accuracy of foresight, especially to plans at the time an investment is physically committed. The amount of the present wealth of any nation which could be liquidated into consumption in any interval before an announced annihilation catastrophe would be limited, however remote the date. But, as already noted, any investment item which is the subject of a capital account can be "written off" in any interval, if, and only if, it has a sufficient yield above pure interest; and no investment in things of limited productive life will ever knowingly be made unless the imputed income is adequate to write it off (with allowance for salvage value) and replace the source with one of equal yield, in that period.

8. The connection in which time is really significant is that of the *mobility* of capital, freedom to transfer it to some other use. But in this connection we must avoid a common and fatal confusion between real, technical and economic mobility, and something utterly different. What people really want to do, in the main, by way of liquidating investments, especially in connection with a depression, is to convert them into "money," not into consumable product, and this is, of course, a problem in the theory of money, and not one in the theory of capital or production.

Real movement of capital from one field to another may involve either of two processes, either the use of the same concrete things in a different connection, or their replacement by other things differently specialised. Physical transfer may, of course, in addition, be accompanied with more or less alteration or reconstruction. In the transfer of capital from one field to another, durability (*i.e.*, its opposite) is an element, but one the importance of which it is natural to exaggerate enormously. Mobility, whether through physical transfer or replacement, must be considered in connection with the structural integration of a particular item in the entire industrial system in which it is used, and this includes the "labour" of every kind and grade as well as the "property" element. Obviously, mobility has no meaning in connection, say, with a part of a machine, apart from the machine as a whole. But this is true, with a difference in degree at most, of the production unit of which the machine is an element. Even the business enterprise cannot be considered independently. (Any unit separately owned will, if mobile, be in an independent position in that it can always force the larger, relatively immobile unit of which it is a part to give it an income share on the basis of

the best opportunity which may be open to it.) In general, the mobility of any item tends to be less than that of the most immobile item with which it is complementary in use—rather that of any organisation as a whole of which it is a part, and this immobility is likely to be much greater than that of any single item in it.

The discussion of mobility is confused by the further fact that the real problem is almost entirely one of uncertainty. As already shown, there is no problem of mobility if the time and conditions of transfer are anticipated when an investment is made. When either a particular transfer, or general fluidity at a known date in the future, is planned for when the investment is made, the effect on the durability or permanence of particular concrete items will run partly in each of the two possible opposite directions; in a complex unit as a whole, some items will be built more cheaply and of shorter life, in order to minimise loss on abandonment, while others will be made more expensive and more durable, but of more standardised design, so as to have the maximum value for other uses when the given project is liquidated. The latter case is common enough in connection with buildings, for example, where extra expense in construction is often incurred to facilitate re-adaptation to some other use in the event of a decline in the demand for the service for which they are initially designed.

9. Particularly in connection with cycle theory, actual mobility of investment is approached in importance by the possibility of temporary, partial postponement of maintenance, without loss of use value. Here it is of some consequence that the part of maintenance which figures as replacement superficially appears to be postponable by an interval bearing some relation to the service life of the items involved. But this is the standpoint of the individual enterprise and an accident of its scope. Actual technical possibility of postponing production of replacements without interrupting operations depends on a complex of conditions.

10. Of comparable importance, again, is the freedom to leave an item out of use without deterioration or other upkeep cost. There are, of course, types of property which deteriorate as fast when kept idle as when used at normal capacity, or even faster.

Under this last item, again, the ramifying complementary technical relationships and connections of ownership must be considered in determining what is the effective investment unit for which freedom of use or non-use is in question.

So important that it must be repeated in conclusion, is the fact mentioned in connection with mobility (section above), that

the entire notion of fluidity in investment in connection with crises and depressions is largely an individualistic delusion—a "fallacy of composition." In a time of depression, when people are clamouring most madly to convert assets into money, there is little or no question of an actual physical liquidation of plant into consumption. The phenomenon is partly one of maladjustment, mainly one of money, prices, and debts. The fluidity chiefly in question is marketability for cash, and the practical difficulty and the theoretical problem lie in the field of "cash" rather than in the technical properties of investment goods.[1]

In connection with the "jam" which occurs at a time of depression, the way in which the situation would be altered if the "investment structure" in the dual sense discussed by Professor Hayek were lengthened or shortened, is a problem of almost infinite complexity. Only two or three considerations can be briefly mentioned here. First, it is undoubtedly true that the time required to carry out any industrial expansion involves a lag in yield which is an important factor affecting the amount of "over-investment," whether relative or absolute—or whatever that apparent over-development of capital goods industries which is of undoubted importance in cycle theory may finally be found to mean. And the time required to construct capital goods is a factor, but only one among other factors, in the lag of increase in output behind expansion activities. Second, immobility of the productive agencies tied up in any over-developed line is undoubtedly an important fact in the depression phenomenon. But (third) whatever rôle is assigned to technical maladjustments of any and every kind in cycle theory, it is perfectly certain that the durability of capital goods is only one factor in the economic immobility of capital itself, and also (fourth) that the immobility

[1] In this connection it is, of course, fundamental that in the modern world "cash" itself arises largely out of debts whose power to perform this function depends on their own liquidity in terms of "money" in a narrower sense. But the confusion of this liquidity of loans with the "disinvestability" of capital which is implied in the Hayek theory of crises is a fallacy even more egregious than those considered in detail above. Loan liquidity means, and can mean, nothing but marketability for money, either of the evidence of indebtedness as such or of disposable assets of the debtor. Maturity dates are largely illusory, superfluous and evil, but only their meaning is in question here. They make some or all of the assets of the borrower a guarantee of the money value of the debt at a stated date. To interpret a maturity as meaning an obligation of the debtor to "liquidate" in a real sense, *i.e.* convert his capital goods into products and turn these over to the creditor, is surely an absurdity difficult to surpass. There is small likelihood that the lender would want the products, and little more presumption that they would be more convertible into any particular amount of "money" than any other assets.

of labour (including, of course, specially trained people) is of fully comparable importance with the immobility of property; and furthermore (fifth), that economic inflexibility in the large is in large part a matter or price "stickiness," along with physical considerations.

In short: A depression, in its critical aspect of serious unemployment (of persons and of property) no doubt generally involves more or less previous mistaken commitment of resources, human and non-human, sustained by immobility. But it is *essentially* a matter of price maladjustment, sustained by price stickiness. If labour were mobile and wages flexible, no fixity in the capital structure would give rise to unemployment, of labour or capital, though efficiency might be greatly reduced. The importance of the first is in any case relative to the second. The rôle of capital durability and production period is limited to contributing toward the wrong commitment and immobility of a relatively small fraction of the productive resources of a system. It is at most a not very large fraction of another similar fraction of the cause or means of cure of the basic evils.

There is no theoretical reason why there should not be fully developed and completely typical cycles in a society in which no capital goods whatever were used. Such a situation may be visualised by considering what might happen if all economic production had the form of personal services, say, of vocal music, especially if largely organised in the form of the chorus. The phenomena of training periods and resistance to retraining, in relation to changes in demand, and to money, credit, and price changes and resistance to change, would be present and adequate to give rise to all the characteristic manifestations now met with. The example is especially in point since the "production period" would clearly be of zero length. Under these conditions no one would think of trying to compute an average period of immobility for a fraction of the productive resources of society and treat it as a "period of production."[1]

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[1] Since the publication of the *Economic Essays in Honour of Gustav Cassel* and of Professor Hayek's article, there has appeared in *Economica* an article of my own entitled "Capital, Time, and the Interest Rate" covering some of the same ground as the foregoing. If there is for some readers some repetition, no one is under compulsion to read both articles; and I am also reminded of the apology for repetition with which Herbert Spencer concluded the Preface to his *Data of Ethics*: "Only by varied iteration can alien conceptions be forced on reluctant minds."

TWO METHODS OF STATISTICAL PRESENTATION

I. Comparatives

The way in which statistics are generally represented to-day does not make it easy for the non-technical person to comprehend them. This article will attempt to show methods of presenting statistics which will enable the full significance to be grasped with much less effort.

The first of these methods is to be employed when merely the comparative rates of change are to be represented but not the absolute values of the different items. Comparisons of price changes of various commodities is an example of this. Their absolute prices are not comparable with one another, since the prices relate to different units of weight and size and so have no common physical basis of measurement. Another example is to be found in comparisons of the rates of change of index-numbers in different countries, since the absolute value of index-numbers has no meaning at all. A new kind of representation is possible in such cases and the figures obtained may be termed "comparatives."

In Table I, 1 the price developments of four different commodities are given as decimals, in the way that is generally usual.

If one attempts to compare the rise in the price of Flax from December to February from 43·4 to 49·3 with the rise of Wool during the same period from 7·14 to 8·01, a difficulty at once presents itself. The two rises can only be compared with some difficulty, since one cannot see at once which rise is relatively the greater. A calculation must first of all be made either on paper or in one's head to the effect that they are approximately equal, *i.e.* 12 per cent. and 11 per cent. respectively. It would therefore be of great value to the average reader if these calculations were already included in the statistics.

Unfortunately, in the above example, it is not possible to make all the figures instantly comparable with one another, but there exist compromised solutions which to some extent render the tables more easy to handle. For example, it is usual to make use of the so-called "chain method," which, however, has great disadvantages.

Further, as in Table I, 2, it is usual to choose as a base some

earlier date, and to reduce to 100 the whole column for that date. Two advantages are obtained by reducing a column as a whole to 100. Firstly, it is possible to obtain changes in approximative percentages by merely subtracting two items of a row one from the other but without dividing the result of this subtraction by one of the two items. Secondly, it becomes easy to compare the rate of change between an item in any one column on the one hand and the corresponding item in the base column on the other. The fact that all the figures in the base column are 100 saves even the time required to subtract the one item from the other. For example, if an item is equal to 105 in any column, then it has simply risen 5 per cent. since the date chosen as a base, for which the figure is 100.

TABLES I

I, 1.

Prices of	Nov.	Dec.	Jan.	Feb.
Flax £/ton	46·3	43·4	48·4	49·3
Hemp £/ton	14·75	14·66	15·04	14·88
Wool *d.*/lb.	7·00	7·14	8·01	8·01
Silk *Sh.*/lb.	6·67	6·42	6·79	6·65

I, 2.

Nov. = 100.	Nov.	Dec.	Jan.	Feb.
Flax	100	94	105	106
Hemp	100	99	102	101
Wool	100	102	114	114
Silk	100	96	102	100

I, 3.

Average 1867–77 = 100.	Nov.	Dec.	Jan.	Feb.
Flax	98	92	103	104
Hemp	66	65	67	67
Wool	35	36	41	41
Silk	28	27	29	28

I, 4.

Prices		Comparatives			
Feb.	of	Nov.	Dec.	Jan.	Feb.
49·3 £/ton	Flax	94	88	98	100
14·88 £/ton	Hemp	99	98	101	100
8·01 *d.*/lb.	Wool	87	89	100	100
6·65 *Sh.*/lb.	Silk	100	96	102	100

However, this method is insufficient in those cases where statistics are regularly published, since as time goes on the figures diverge appreciably from 100. The figures appear then no longer as in Table I, 2 but as in Table I, 3. So, the first advantage of the application of a base column is lost, because, the figures being appreciably different from 100, one can no longer avoid dividing the difference between two items, by one of them, in order to obtain the approximate percentage of the change. The second advantage of the application of the base is also lost, since as time goes on a comparison with the base column, which is growing ever more obsolete, becomes continually less important. Thus it is obvious that the idea of reducing a whole column to 100 is sound, but, in case of regular returns, the obsolescence of the base

destroys the advantage. A new method is, however, possible which, though not used hitherto, would avoid this defect.

The essence of this new method is that in every succeeding return a fresh column, that is to say the column containing the most recent statistics, is taken as the base column. Accordingly, each whole row has to be multiplied by such a factor that the figure in the most recent column becomes equal to 100. The figures obtained may be termed "comparatives." An example of these is given in Table I, 4.

Returns are published in order to show the course of events to the economically minded public, *i.e.* practical economists, government experts, bankers or merchants. In nine cases out of ten they do not seek an answer to historical questions, but simply wish to know how things are going on at the present moment. The only point of time which really interests them is the present, just because it is the present, and as such is distinguishable from the more or less remote past. Therefore it is important that in Table I, 4 the column which is chosen as a base, and for which comparisons are made especially easy, is the most recent column.

Against the advantages of this method there are certain difficulties.

The first difficulty confronts the author and the publisher but not the reader. With each new issue a new base has to be calculated; accordingly, the whole table has to be recalculated and reset. Both processes require time and money, so that the improvements in the service to the customer is purchased at the price of a certain increase in the operating costs.

The second difficulty is that through the change of base, the figures in any one return cannot be compared with the figures in any other. That is, when "comparatives" are published, it is tacitly assumed that the reader will only use the figures in that particular issue and will not consult those in previous numbers. However, it is not always possible to presuppose this.

This difficulty can be overcome if one considers that there are two (and only two) different purposes for which two different presentations, published simultaneously, are appropriate. For the first purpose, *i.e.* for a practical usage, it is essential that the course of development can be seen at a glance, and accordingly the appropriate "comparatives" ought to be published with a greater number of comparative previous columns. For the second purpose, *i.e.* for use as source material, the statistics must be so arranged that as many combinations of remote columns as desired can be used independently from the combination given in

the original publication. Thus, for the present issue of the return an extra column may be used (as in Table I, 4) which is not reduced to 100, but is printed as appears in Table I, 1. Those extra columns are naturally comparable with one another in any one issue, and thus from any back numbers which are necessary one can establish as many combinations of the figures as one wishes.

Finally, it should be noted that it is often useful to reduce the last column but one to 100, instead of the last column. This method should be used in weekly or daily publications in which speedy calculation is necessary. It is then possible to calculate the necessary figures before the actual base day arrives and to set up the table in advance, so that after the base day only one column—the last—has to be calculated and set up.

II. Index Relatives

It is only permissible to calculate an index-number from a series of price changes in the case when they exhibit a certain "convergence," but absurd to speak of a common trend when they are completely divergent. In the case of commodity prices, causes of such "convergence" are, for example, central bank policy as well as the general state of trade. These factors influence the price of all commodities in the same way. In the case of share prices, political events, the situation of the money market, price movements on overseas stock-exchanges have a common effect on the prices of all shares.

In addition to containing convergent factors, prices also contain "divergent" factors. Any assumption to the contrary would imply that all prices would alter in the same sense and to the same extent, thus rendering entirely superfluous the calculation of an average amount of change. As a matter of fact there are quite a number of influences which could effect such a "divergence." For example, in the case of commodity prices, the result of technical improvements or of alterations in the taste of consumers, will be rising prices for some commodities and falling for others. In the case of share prices, new items or rumours concerning individual companies have the effect of raising the quotations of some shares and lowering others.

Thus, changes in commodity or share prices are synthesised from "converging" and "diverging" tendencies. Of these the index-numbers represent the general tendency, *i.e.* only the "converging" part of this combination is extracted, whilst simultaneously the diverging part is eliminated.

The combined tendencies are represented by the changes in the quotations of commodity or Stock Exchange prices and it is usual for papers to publish them daily. The "convergency" extracted from these data is represented by the index-number and is usually also published regularly.

Beside actual prices, and besides their respective index numbers, it would be of equal importance to calculate and publish additional figures which may be termed "index relatives." In contradistinction, these would extract and reproduce the "divergent" parts and thus eliminate the "converging" parts.

The price of each particular commodity or share on any day will be divided by the corresponding index-number for that day. In this way, for each share or commodity a specific "index relative" value is obtained. Thus, in Table II, 1 the same commodity prices are reproduced as in Table I, 1, including in addition their index-numbers for the corresponding days. In Table II, 2 each single price has been divided by the index-number of that day (and multiplied by 100) in order to obtain the new "index relatives."

TABLES II

II, 1.

Prices	Nov.	Dec.	Jan.	Feb.
Flax £/ton	46·3	43·4	48·4	49·3
Hemp £/ton	14·75	14·66	15·04	14·88
Wool *d.*/lb.	7·00	7·14	8·01	8·01
Silk *sh.*/lb.	6·67	6·42	6·79	6·65
Index-Number	79·3	80·0	82·5	82·5

II, 2.

Index Relatives of	Nov.	Dec.	Jan.	Feb.
Flax	58·4	54·2	58·6	59·7
Hemp	18·6	18·3	18·2	18·0
Wool	8·9	9·0	9·7	9·7
Silk	8·5	8·0	8·3	8·1
Index-Number	100	100	100	100

II, 3.

Index Relatives		Comparatives of Index Relatives			
Feb.	of	Nov.	Dec.	Jan.	Feb.
59·7	Flax	98	91	98	100
18·0	Hemp	103	102	101	100
9·7	Wool	92	93	100	100
8·1	Silk	106	99	102	100
100	Index-Number	100	100	100	100

The changes over a period of time of the "index relatives" of Table II, 2 bring out clearly and immediately which commodity movements have exceeded the general trend, and which have lagged behind or even have moved in a contrary direction. As each "index relative" was obtained through dividing the price by the index-number, the general trend over a period of time has been eliminated, whilst the differences in the movements of the

various commodities have been brought out. From the "index relatives" in Table II, 2 the movements of the commodities relative to one another may be obtained.

It is clear that "index relatives" are every bit as important in their function as the index-numbers themselves. It is equally clear that the "index relatives" have the same logical and mathematical errors as the index-numbers and the prices, but contain no additional errors, because the "index relatives" and index-numbers are complementary, portraying as they do the two aspects of the same problem.

The position of the "index relatives" in the general body of statistical doctrine is similar to that occupied by figures relating to dispersion. The latter have also as their object the measurement of the average deviation from a general average (*e.g.* from an index-number), but only expressed by means of one figure for all values. On the other hand, the "index relatives" may be considered as a group of dispersion figures which are expressed for each particular quotation (commodity or share) by a specific ratio.

"Index relatives" further have much in common with certain graphical methods of representation. It is usual to represent on one graph several series of commodities or shares along with the index-number. The relative movements can then be seen to some extent as long as too many series are not represented on the graph. This graphical method is by no means identical with the "index relatives." The graphical representation of "index relatives" could be obtained if the ordinates of the individual items were expressed in units of the index-number. Such a graphical representation of the "index relatives" can be applied with profit in cases where the number of series is small.

Any single "index relative" of Table II, 2 has no meaning by itself, just in the same way as the absolute value of a single index-number has also no meaning, only its change over a period of time is significant. Thus, "index relatives" are suitable for presentation in the form of "comparatives" as in Table II, 3. The practical advantage of a combined representation of "index relatives" worked up as "comparatives" is a double one: working up the source material contained in Table II, 1 into "index relatives" in Table II, 2, it is not necessary for the reader to compare every change in a particular item with the change in the trend during the same period. Besides this, by the additional working up of the Table II, 2 into "comparatives of index relatives" in Table II, 3, he saves as well the computation into

percentages. Thus, all the work is already done by the author of the statistics.

A fuller example of "index relatives" is given in Table III, 3 with special reference to their application in the case of commodities. The figures are taken by kind permission from the *Statist.*

TABLES III

III, 1.—*Index-Numbers of Commodities.*

	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
Vegetable Food	58	58	60	60	59	58	58	60	70
Animal Food	105	108	112	111	107	108	113	110	110
Sugar, Coffee, Tea	47	47	53	53	53	53	53	51	49
Minerals	111	111	111	112	113	111	108	107	107
Textiles	67	68	73	74	74	71	71	71	71
Sundries	79	79	80	79	80	80	79	78	78
All Food	73	74	77	77	75	75	77	77	81
All Materials	84	84	86	86	87	85	85	84	84
All Commodities	79	80	83	83	82	81	81	81	82

III, 2.—*Index Relatives of the Groups.*

Index Relatives		Comparatives of Index Relatives								
July.	of	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
100·0	All Commodities	100	100	100	100	100	100	100	100	100
97·7	All Food	94	95	96	96	94	95	97	97	100
101·6	All Materials	104	104	103	103	104	104	103	102	100
85·4	Vegetable Food	86	85	85	85	84	84	84	87	100
133·3	Animal Food	99	102	102	101	98	100	105	102	100
60·0	Sugar, Coffee, Tea	98	98	106	108	108	109	108	106	100
130·3	Minerals	107	106	103	104	105	105	102	102	100
86·3	Textiles	98	98	102	104	104	101	102	101	100
94·5	Sundries	106	105	103	102	103	104	104	103	100

III, 3.—*Index Relatives of the Individual Commodities.*

Index Relatives		Comparatives of Index Relatives								
July.	of	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
	Animal Food:									
121·3	Beef, Prime	102	103	98	95	95	98	98	99	100
135·8	Beef, Middling	89	90	100	96	95	96	98	97	100
154·1	Mutton, Prime	88	90	82	85	83	95	108	105	100
172·2	Mutton, Middling	85	90	81	81	80	91	104	102	100
135·8	Pork	109	120	129	125	126	119	105	105	100
142·8	Bacon	98	97	116	116	108	101	104	104	100
70·9	Butter	155	149	123	131	113	101	102	102	100
	Textiles:									
95·3	Cotton, Mid Am.	75	78	87	91	90	86	91	99	100
92·2	Cotton, M.G. Oomra No. 1	84	86	88	92	87	84	93	100	100
162·0	Flax, Liv. Z.K.	76	71	77	78	85	88	90	101	100
80·1	Hemp, Manilla, fair	104	102	102	101	101	103	102	102	100
86·3	Jute, Lightnings	101	107	107	111	109	106	102	102	100
110·6	Wool, S. Australian	137	139	145	143	144	131	126	102	100
38·4	Wool, Lincoln H.H.	116	117	128	128	128	122	114	102	100
25·7	Silk, Common N. Style	139	132	136	133	129	122	115	112	100

Changes in commodity prices, caused by influences of monetary policy or of trade cycles, affect the prices of all commodities to an equal extent and are consequently convergent. Thus, these changes are included in the movement of the index-number, so that, on the contrary, the "index relatives" must necessarily be independent of them. Accordingly, the "index relatives" portray the changes in the value of each commodity, free from monetary or trade cycle influences.

The "index relatives" are prices, divided by the appropriate index-number, and so the prices are expressed in units of the index-number. Accordingly, the prices are measured in a supposed currency, of which the supposed unit of currency is equal to the absolute value of the index-number. Thus, one can look upon the "index relatives" of wholesale commodities as values, obtained by conversion of the original prices from terms of the legal currency into terms of a supposed "index currency."

The expression of values in a supposed "index currency," as measured by the "index relatives," does not involve the actual employment of a legal "index currency." But even this mere expression would not be valueless in the eyes of friends of the Index Currency Theory, because improvement in the measurement of commodity values is one of their main aims. Further, one may suppose that opponents of the Index Currency Theory would also consider this measurement as valuable. Their opposition is not directed to the measurement of commodity values by an index-number, but rather to a legal management of the currency, made in order to obtain a constant index-number.

The difficulties of exact measurement of individual commodity values are particularly great with price movements in countries where the gold standard is suspended. Comparisons between

TABLES IV

IV, 1.—*Index-Numbers of ordinary Shares and Stocks.*

	Nov.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.
Building Materials	69	69	71	76	79	82	82	80	85
Coal	96	101	98	97	98	97	94	89	88
Cotton	56	54	55	52	50	50	48	44	47
Electric Light & Power	127	133	133	134	135	126	127	129	130
Gas	133	135	134	134	135	135	135	135	136
Iron & Steel	46	52	52	52	56	53	51	51	51
Oil	64	70	69	67	65	65	63	60	63
Electric Supplies	95	99	95	92	92	92	92	94	95
Home Rails	79	83	91	96	92	82	77	70	78
Shipping	19	20	18	18	18	17	16	15	15
Stores & Catering	75	76	76	76	80	81	79	80	81
Breweries & Distilleries	98	100	105	110	113	112	110	110	113
Miscellaneous	59	61	63	64	66	65	63	60	63
Total	69	71	72	72	73	72	71	69	71

IV, 2.—*Index Relatives of the Groups by the Total Index-Number.*

Index Relatives		Comparatives of Index Relatives								
Aug.	of	Nov.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.
120	Building Materials	83	81	82	88	89	95	96	97	100
124	Coal	112	114	110	109	107	109	106	104	100
66·2	Cotton	123	115	115	109	103	105	102	96	100
183	Electric Light & Power	101	102	101	102	101	96	98	102	100
192	Gas	101	99	97	97	96	98	99	102	100
71·8	Iron & Steel	93	102	101	101	105	103	100	103	100
88·7	Oil	105	111	108	105	100	100	100	98	100
134	Electric Supplies	103	104	98	96	94	96	97	101	100
110	Home Rails	104	106	115	121	115	104	98	92	100
21·1	Shipping	131	131	117	119	117	109	105	102	100
114	Stores & Catering	96	94	93	93	95	99	97	102	100
159	Breweries & Distilleries	89	89	92	96	97	98	97	100	100
100	Total	100	100	100	100	100	100	100	100	100

IV, 3.—*Index Relatives of the Individual Values by the corresponding Group Index-Numbers.*

Index Relatives		Comparatives of Index Relatives								
Aug.	of	Nov.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.
42·4	Assoc. Port. Cem.	103	100	99	103	108	101	99	99	100
102	London Brick Cy.	106	113	115	114	111	110	110	118	100
49·4	Pinchin Johnson	90	95	100	97	98	93	99	96	100
50 0	Wallpaper, Def.	145	161	150	115	111	107	107	113	100
100	of the Group	100	100	100	100	100	100	100	100	100
45·5	Amalg. Anthracite Co.	143	136	140	125	101	96	105	99	100
32·0	Bolsover Colliery	98	104	96	97	100	97	98	101	100
83·5	William Cory	96	92	99	100	99	95	99	97	100
39·8	Staveley Coal	85	87	85	84	90	86	87	92	100
100	of the Group	100	100	100	100	100	100	100	100	100
16·0	Bleachers' Assoc.	126	123	122	114	106	106	106	98	100
138	J. P. Coats	80	80	81	88	91	91	95	107	100
89·1	Engl. Sewing Cotton	85	88	89	93	102	97	99	109	100
20·0	Fine Cotton Spinners	134	128	132	120	115	106	104	107	100
100	of the Group	100	100	100	100	100	100	100	100	100
72·4	Anglo-Persian	101	101	103	102	99	104	101	104	100
130	Burmah Oil	101	99	102	106	109	125	95	102	100
18·2	Phœnix Oil (£1)	104	107	103	106	103	89	92	82	100
75·4	Shell (Bearer)	106	105	105	103	102	104	105	99	100
100	of the Group	100	100	100	100	100	100	100	100	100
64·1	Great Western	105	106	108	97	98	98	103	109	100
28·8	L.M.S.	106	111	107	100	101	98	101	99	100
10 6	L.N.E.	116	113	108	103	103	93	101	98	100
30·1	Southern, Def.	76	80	95	102	100	97	104	95	100
100	of the Group	100	100	100	100	100	100	100	100	100

old and new prices are untrue, or at least uncertain, if they are made either by converting new paper prices into terms of the old gold standard, or by comparing both prices in paper standard at par. On the other hand, the measurement by "index relatives," in eliminating the whole of the convergent influences, including those arising from the suspension of the gold standard, remains valid.

Another more detailed example of "index relatives" is reproduced in Table IV, 3 with special reference to its application in the case of shares. The "Actuary's" index numbers are used by kind permission of the *Economist*.

Table IV, 3 shows the development of different shares on the London Stock Exchange measured by the index-numbers for their corresponding groups.

From this table everyone who is interested in shares can see the position of those shares which are of particular interest to himself. If a person has been a holder of a particular share, whether for a year or only for two months, a glance at the table suffices to tell him whether he has done well or not in holding that share in preference to any other. Those who are in the act of deciding which share to buy will obtain equally useful hints from the table, since on examination it at once becomes clear which shares are behaving abnormally. Thus, a particularly interesting case is afforded by the fluctuations of the shares of Wallpaper Manuf. or of Amalgamated Anthracite Co.

The table will at once focus upon both the attention of the readers, some of whom will be of the opinion that the fall in the shares is justified and will continue, whilst others, on the contrary, will judge the fall to have been excessive and will come to the conclusion that the shares will rise.

It is just as impossible for the "index relatives" themselves to show whether the future will see a fall or rise of a given share as it is for the changes of index-numbers to show what will be the future course of the general trend. The "index relatives" are not meant to play the part of the prophet, but rather to reveal actual facts in a clearer fashion, and to draw attention to the position of particular shares, in the same way as index-numbers show the actual direction of the general trend.

The index-numbers in Tables III, 1 and IV, 1 of the groups, are represented in Tables III, 2 and IV, 2 as "index relatives" of the Total Index-Number. The conceptional difference between the index-numbers of groups and the "index relatives" of groups is obvious. The index-numbers of groups express the group-averages in units of the legal currency, thus representing the trend of a group in relation to the legal currency. The "index relatives" of groups express group-averages in units of the total index-number, thus representing the special trend of a group in relation to the general trend, either of all the commodities or of all the shares.

The two different expressions of the individual "index

relatives," obtained from division by the total index number in Table III, 3, and from division by the corresponding group index numbers in Tables IV, 3, show that it is possible to arrange the whole of the commodities or shares either in a small number of large groups or in a greater number of smaller groups. The smaller the single groups are chosen the more similar will be the individual items to one another within the group. Consequently, the deviations of the rate of change of the individual "index relatives" will be less the smaller the group becomes.

JOSEPH N. KOEHEGYI

RECENT CHANGES IN THE PHYSICAL OUTPUT OF ARABLE FARMS

It appears to be a generally accepted axiom that farmers as a class are slow to react to changes in price levels. Within certain limits, and particularly when farming is partly on a subsistence basis, this is undoubtedly true, and the characteristic has been studied and the causes explained by numbers of writers. It is unusual, however, to find price levels fluctuating so rapidly as has been the case during the last twenty years, and the period is, therefore, one of special significance when investigating the degree of elasticity of agricultural production. Another interesting characteristic of agriculture is the fact that a decline in prices is generally met, in the first instance at least, by an increase in the volume of production. The period since 1920 has been one of almost continually falling prices, and for this reason physical output data for these years appear to be of special interest.

In the *Agricultural Output for England and Wales*, 1930–31 (Cmd. 4605), some estimates are made of the physical output of farms since the previous Census in 1924–25. These estimates refer to the country as a whole, but do not differentiate between different sizes and types of farms, while, owing to the absence of the necessary data, it was not found possible to adjust the calculation for changes in inputs under the heading of purchased feeding stuffs, fertilisers, etc. To get a single index for all commodities for the purpose of comparing the two Census years the physical output is valued at a constant price, and the resulting figure suggests a general increase of 3·9 per cent. in 1930–31 as compared with 1925. It happens that 1930–31 coincided with a cyclical minimum in the pig cycle, while the earlier year coincided with a cyclical maximum. If pig meat is omitted from the calculation the general increase in the agricultural output is raised from 3·9 per cent. to about 9 per cent. The increases recorded are not, of course, distributed equally over the many types of commodity which are produced on farms throughout England and Wales. Notable amongst the increases were the items dairy produce, poultry, eggs and sugar beet, whilst among the decreases corn crops were outstanding.

The period immediately following the most recent Census has

been characterised by even more rapid alterations in organisation than were evidenced during the preceding six years, and the purpose of this article is to examine some of the changes which have occurred in the most important arable district of England, and to trace, where possible, related alterations in the purchase of raw material. In scope it is limited to the six counties of Norfolk, Suffolk, Essex, Hertfordshire, Cambridgeshire (excluding the Isle of Ely) and Huntingdonshire, the time period is the two years 1931–33 which immediately follow the latest Census, and the data on which it is based are drawn partly from the Annual Statistics of the Ministry of Agriculture and partly from *Reports* 19, 21 and 22 of the Farm Economics Branch of the Cambridge University Department of Agriculture.

Financial records relating to 500 farms distributed throughout the six counties, and based on an identical sample for each of the three years, show that net farm incomes (including wheat deficiency payments) have evinced a decided tendency to rise during the period in spite of a continual fall in the price index of commodities. The relative figures (1931 = 100) are shown below :

TABLE I

Changes in Index of Prices, Gross Income and Charges.

	Official Price Index of all Agricultural Commodities (England and Wales).	500 Farms in six Eastern Counties.		
		Gross Income.[1]	Gross Charges.	Net Income per Farm.
	Index.	Index.	Index.	£
1931 .	100	100	100	− 7
1932 .	94	102	98	+ 43
1933 .	88	115	101	+ 134

[1] Adjusted for changes in valuations.

The official price index is weighted for the country as a whole, and therefore does not reflect accurately the price position in these arable counties. But even allowing for some distortion here, it is clear that the betterment in net incomes is due to an increase in gross incomes rather than to a reduction in gross charges. That gross incomes should have been so increased in spite of a falling price level indicates a substantial rise in physical sales off farms which, compared with 1931, and roughly calculated from the figures given above, must amount to about 10 per cent. in 1932 and as much as 30 per cent. in 1933. Actually, of course, these increases have not been equally distributed over the various

commodities produced, and have involved a considerable quantitative addition to the raw materials purchased. While these changes are largely due to alterations in organisation deliberately undertaken by the farming community, they are at least partly caused by the favourable climatic conditions associated with the two years under review.

The following figures compiled from the official annual statistics of the Ministry of Agriculture, and referring to the six counties, substantiate the suggestion made in the previous paragraph. It may be advisable to explain that these figures are collected on the 4th June each year, and refer to the crop acreages and numbers of live-stock on farms at that particular date. To facilitate comparison the changes in numbers and acreages in 1932 and 1933 are here expressed as index numbers based on 1931 = 100.

The two years 1932 and 1933 coincide with the inauguration of the Government's Marketing Policy and the Wheat Act, and it is clear that the period has been one of very rapid readjustment on the part of the farming community in this arable district. With the exception of "horses for agricultural purposes" and "other sheep over one year old," all types of live-stock show substantial increases in numbers over the 1931 base, which (referring for the moment only to breeding stock) amount to 11 per cent. for cows in milk, 15 per cent. for ewes, 15 per cent. for sows, and 21 per cent. for fowls. Other categories of live-stock, with the two exceptions already mentioned, show increases which vary in magnitude from 6 to 31 per cent.

In tabulating changes in crop acreages differentiation has been made between those crops which are grown mainly for direct cash sale and those which are grown mainly for feeding to live-stock. Such a classification has here been used to emphasise an important feature of recent changes, and demonstrates that while the total area under crops and grass has decreased by 1 per cent., the area under those crops which are grown mainly for direct cash sale has increased by no less than 13 per cent. In this category sugar beet, wheat, and potatoes are outstanding with increases of 91, 44 and 30 per cent. respectively. Small fruit and orchards show only a small increase of 4 per cent., while there has been a decrease of 3 per cent. in peas and 30 per cent. in barley. The area under crops grown mainly for fodder has declined by 18 per cent. Here clovers and rotational grasses are outstanding with a decrease of as much as 41 per cent., while root crops (mangolds, swedes, turnips, kohl rabi, cabbage and rape) have declined by 21 per cent.

TABLE II

Official Statistics for the Six Counties.

	1931. Numbers of Live-stock and Crop Acres.	1932. Index based on 1931 = 100.	1933. Index based on 1931 = 100.
Cows in milk	128,188	105	111
Cows and heifers in calf	54,820	101	106
Bulls	6,914	102	107
Other cattle, 2 years and over	58,768	93	106
1 year and under 2	87,539	111	130
Under 1 year	82,937	115	120
Total Cattle	419,166	106	115
Ewes	336,658	115	115
Rams and ram lambs	8,414	122	125
Other sheep 1 year and over	135,152	99	72
Under 1 year	383,521	113	115
Total Sheep	863,745	111	108
Sows	69,114	113	115
Boars	5,308	117	119
Other pigs	408,816	123	131
Total Pigs	483,238	122	129
Fowls	6,602,399	114	121
Other poultry	646,958	99	111
Total Poultry	7,249,357	113	120
Horses for agricultural purposes	97,503	97	94
All horses	117,615	107	104
Mainly cash crops :			
Wheat	337,702	111	144
Barley	441,900	91	70
Sugar beet	105,413	131	191
Peas	39,116	97	97
Small fruits and orchards	43,959	102	104
Potatoes	50,726	120	130
Total " Mainly Cash " crops	1,018,816	104	113
Other crops :			
Clover and rotational grasses	408,587	88	59
Oats	217,442	95	92
Mixed corn	7,180	78	61
Rye	9,326	82	66
Beans	62,465	95	104
Turnips and swedes	87,374	84	73
Mangolds	82,244	84	82
Kohl rabi, cabbage and rape	22,101	85	87
Vetches and tares	19,697	79	104
Lucerne	25,118	88	80
Other crops	54,379	100	101
Bare fallow	107,408	124	133
Total " Other crops "	1,103,321	93	82
Permanent grass	1,093,415	102	103
Total Crops and Grass	3,215,552	99½	99

The area under permanent grass has increased 3 per cent. Thus, whereas in 1931 " cash " crops represented less than 32 per cent. of the total area under crops and grass, in 1933 this proportion had risen to over 36 per cent. It seems probable that these figures under-estimate the extent of the change, for in the former year the proportion of the total wheat and barley area which was cashed was very much less than in the latter year. In the case of wheat, for example, only about two-thirds of the total crop was cashed in 1931 compared with over nine-tenths in 1933.

TABLE III

Crop Production in the Six Counties.

	1931. Thousand Tons.	1932. Index based on 1931 = 100.	1933. Index based on 1931 = 100.
Wheat	284	115	169
Barley	337	97	81
Oats	178	99	104
Mixed corn	5	82	63
Rye	4	83	64
Beans	52	99	107
Peas	28	96	91
Total Cereals and Pulse	888	104	116
Sugar beet	790	150	193
Potatoes	317	122	148
Total " Cash " roots	1,107	141	181
Mangolds	1,340	94	80
Turnips and swedes	1,010	88	62
Total " Fodder " roots	2,350	91	73
Seeds hay	523	84	36
Meadow hay	341	85	63
Total Hay	864	84	47
	Thousand Acres.	Index.	Index.
Crops for which acreage yields are not available :			
Grass not for hay	844	106	108
Kohl rabi, cabbage, etc.	22	85	87
Vetches and tares	20	79	104
Lucerne	25	88	80
Total other " Fodder " Crops	67	85	90
Small fruit and orchards	44	102	104
Other crops	54	100	101
Total fruit and other crops	98	101	103

It would appear, therefore, that cash crops are occupying an increasing proportion of the farmed area, and that in spite of a reduction in the fodder crop area the numbers of live-stock have been rising rapidly. Has this been achieved by greater productivity of the land and the withholding for feed of a larger proportion of cash crops, by increased purchases of foreign fodder, or by a combination of both? To answer this question it is first necessary to ascertain the total production of crops, and the proportion of the total production which has been cashed.

Changes in total crop production during the three years are shown in the following table, from which it will be seen that production does not vary exactly with acreage, owing to variations in yield per acre between one year and another. For example, in 1933 the total production of wheat was 69 per cent. above that of 1931, although the acreage was up by only 44 per cent. The comparable figures for the four groups of crops for which yields are available are as follows:

TABLE IV

Changes in Acreage and Total Production of Crops.

	1931.		1932.		1933.	
	Acreage. (Index)	Production. (Index)	Acreage. (Index)	Production. (Index)	Acreage. (Index)	Production. (Index)
Cereals and pulse	100	100	98	104	99	116
"Cash" roots	100	100	127	141	171	181
Fodder roots	100	100	88	91	81	73
Hay	100	100	88	84	70	47

It is clear that cereals, pulse and "cash" roots have all yielded exceptionally well in 1932 and 1933. With cereals and pulse, for example, total production in 1933 is 16 per cent. above that of 1931 in spite of a reduction of 1 per cent. in acreage. The 1933 acreage of "cash" roots is 71 per cent. above that of 1931, but production is 81 per cent. higher. With "fodder" roots and hay, however, this position is reversed, and the effect on production of a declining acreage has been accentuated by a drop in yield, which has been particularly severe in the case of hay. It is true that the pasture acreage has increased 8 per cent. (the proportion of permanent grass cut for hay has declined), but the area under other possible fodder crops (see Table III) has decreased somewhat.

It is difficult to calculate a combined index of the productivity

of all crops, because no single common denominator is entirely satisfactory. In terms of starch equivalent the production of those crops in 1932 and 1933 for which yields are available was 104 and 106 respectively, compared with 100 in 1931. If the combination is weighted by money value instead of starch equivalent the indices for 1932 and 1933 are 107 and 113 respectively. It is possible approximately to assess the effect of climatic conditions on these indices by applying the 1931 acreage yields to the crop distribution of the two ensuing years. When this is done, production in 1932 and 1933, on the basis of 1931 acreage yields, would have been 99 and 101 respectively taking starch equivalent as the common denominator, or 101 and 107 if weighted by money values. Approximate as this calculation is, it nevertheless suggests strongly that climatic conditions have had more influence on total crop production than the readjustment of cropping and changes in practice carried out by the farming community. This deduction must not, however, be accepted too literally or too readily. There has been an appreciable increase in the purchase of artificial fertilisers during the three years. In 1931, for example, the purchase of fertilisers amounted to approximately 102,000 tons, while the corresponding figures for 1932 and 1933 were 104,000 tons and 123,000 tons respectively. An increase of 20 per cent. in the amount of fertilisers used (this increase appears to have been applied mainly to the "cash" roots) must have exerted considerable effect on crop yields, but it is, of course, impossible to measure this factor as distinct from the climatic factor.

Estimates of the volume of crops sold are given in Table V. These figures refer to the *gross* sales off farms, and it must be understood that in some cases the sales from one farm are purchases to another, while, particularly in the case of wheat in 1932 and 1933, a considerable proportion of the sales to *bona fide* merchants is drawn back in the form of purchases of the same material for live-stock fodder or for seed. But even bearing this qualification in mind, the magnitude of the increase shown, particularly for cereals and cash roots, is rather astonishing, for the total quantitative crop sales (weighted by their relative money values per ton) have risen approximately 30 per cent. in 1932 and nearly 60 per cent. in 1933 compared with those of 1931. One interesting feature of this table is that it shows that sales of cereals have increased at a more rapid rate than total production—the index for the former in 1933 being 158 compared with a production index of 116. In absolute terms this means that whereas in 1931

TABLE V

Crops sold in the Six Counties.

	1931. Thousand tons.	1932. Index based on 1931 = 100.	1933. Index based on 1931 = 100.
Wheat	185	169	247
Barley	228	95	98
Oats	27	122	111
Mixed corn	—	—	—
Rye	1	100	100
Beans	11	73	99
Peas	13	108	115
Total Cereals and Pulse	465	126	158
Sugar beet	790	150	193
Potatoes	286	121	127
Total "Cash" roots	1,076	142	176
Mangolds	7	170	57
Turnips and swedes	9	100	200
Total "Fodder" roots	16	130	140
Seeds hay	157	94	31
Meadow hay	49	47	43
Total Hay	206	83	34
	Thousand acres.	Index.	Index.
In addition :			
Cabbage, etc.	2	250	50
Vetches and tares	4	75	100
Lucerne	4	100	150
Other crops	45	107	90
	55	109	100

423,000 tons of cereals and pulse were kept for feeding to livestock and for seed in these six counties, in 1933 only 294,000 tons were thus withheld. The comparative figures for the other groups of crops are given below :

TABLE VI

Quantities of Crops consumed on Farm of Origin.

	1931. Thousand Tons.	1932. Thousand Tons.	1933. Thousand Tons.
Cereals and pulse	423	343	294
"Cash" roots	31	39	108
Fodder roots	2,334	2,119	1,688
Hay [1]	589	539	474

[1] Adjusted for surplus carry forward.

From these figures it is clear that the live-stock fodder supply has not been augmented by withholding cash crops (except to a small extent in the case of potatoes), and that in actual fact in the two years following 1931 the supply of home-grown cereals and pulse for feeding and seed has declined by one-third (130,000 tons), of fodder roots by one-quarter (570,000 tons), and of hay by one-fifth (115,000 tons). The combined index, based on the common denominator of starch equivalent, is 87 and 74 in 1932 and 1933 compared with 100 in 1931.

This decrease in the available supply of fodder crops has undoubtedly been made up partly by an increased use of the by-products from cash crops. For example, an acre of sugar beet tops fed to live-stock can be reckoned to supply the feeding equivalent of about half an acre (say, 5 tons) of turnips and swedes, and in 1933 there were 95,000 more acres of sugar beet grown than in 1931. It is true that a large area of beet tops is not fed to live-stock and is ploughed into the soil as a manure, but here is a reservoir of fodder which can be, and is, drawn on as required. In the same way straw, the by-product of cereal production, provides a reservoir which can be tapped to meet a shortage of hay, and which, for store cattle at least, is frequently used wholly as a substitute for hay. Observation suggests that very much more straw was used in this way in 1933 than in 1931. Further, the increased production of cereals probably resulted in an increase in the amount of tail corn available for live-stock feeding, while stubble pickings for poultry, skim and surplus milk for veal and young stock, chat potatoes, seeds aftermaths, and so on, must all provide many opportunities for supplementing the live-stock fodder supply. But although these various by-products have without doubt played an important part in eking out the reduced supplies of fodder crops proper, the deficiency must have been made up largely by increased purchases of feeding stuffs.

It has already been emphasised that sales of crops on one farm may represent purchases of feeding stuffs or seed on another. The crop sales calculated above represent gross sales, and the following figures, referring to purchases of feeding stuffs, represent, in the same way, gross purchases. Unfortunately it appears impossible to distinguish clearly between material imported into the district (either from foreign sources or from other parts of Great Britain) and food-stuffs originating on the farms of the district itself. But as we are here dealing primarily with annual variations, and not with absolute quantities, this gap is not of great importance. Table VII, in which a wide variety of different types of

feeding stuffs are for convenience grouped in five broad categories, shows approximately the movements which have taken place :

TABLE VII

Purchases of Feeding Stuffs in the Six Counties.

	1931. Thousand Tons.	1932. Thousand Tons.	1933. Thousand Tons.
Grain offals and beet pulp .	315	309	353
Cereals and pulse . .	251	284	371
Proprietary mixtures . .	71	104	147
Foreign cakes . . .	70	57	51
Other feeding stuffs . .	85	80	106
Total . . .	792	834	1,028

These figures indicate that in 1932 and 1933 the quantities of feeding stuffs purchased were increased above the 1931 level by 42,000 tons and 236,000 tons respectively. And when to these totals purchases of seed for cereals and pulse are added, the inputs in 1933 are raised to 262,000 tons above those of 1931, a matter of 33 per cent.

Using the figures given in Table VI and VII (and which, it is important to remember, exclude crop by-products and pasture) a very approximate estimate may be made of the total feeding value available for live-stock in each of the three years. Thus, expressed on the common denominator of starch equivalent, the items listed in these two tables, plus purchases of seed for pulse and cereal crops, can be amalgamated as follows :

TABLE VIII

Total Feeding Value of Items listed in Tables VI and VII.

	1931. '000 tons Starch Equivalent.	1932. '000 tons Starch Equivalent.	1933. '000 tons Starch Equivalent.
Crops consumed on farm of origin	618	535	456
Purchased foods	482	513	631
Purchased cereal and pulse seed.	21	20	38
Total	1,121	1,068	1,125

The total figure is seen to be fairly constant in each of the three years, so that, assuming the live-stock output had remained stable throughout the period, adequate fodder supplies should have been available. But in point of fact the live-stock output appears to

have been increasing throughout 1932 and 1933 at the rate of about 7 per cent. per annum, and the totals shown in Table VIII might, therefore, have been expected to increase at the rate of about 70,000 tons a year. That they have not done so must be due to one or other of the following four causes: (1) increased attention to rationing on the part of the farmers, a factor which has undoubtedly played an important part in husbanding the short hay crops of 1932 and 1933; (2) an alteration in the age and type distribution of the live-stock kept and produced (see Table II), *e.g.* it requires less food to produce a ton of live-weight in young animals than in older stock; (3) better management and more efficient utilisation of pastures (of which the area has increased), or (4) increased use of by-products. The last of these four possible explanations seems likely to be the most important, although no doubt the other three are each partly responsible.

It is thus clear that the increased sales of crops shown in Table V do not measure a real increase in the total net physical output. Price differentials have merely favoured a movement towards the replacement of home-grown crops by purchased feeding stuffs, and have thus released a crop surplus for cash sale. The maintenance of such a position depends largely on the future relative prices of purchased feeding stuffs. It is true that, weighted either by starch equivalent or money value, there has been some increase (between 6 per cent. and 13 per cent.) in the total physical output of crops, and this appears to be due to a combination of favourable climatic conditions and increased applications of fertilisers. It also appears that an increased economic importance has been given to by-products. The principal alteration which has occurred, however, is a considerable redistribution of the various crops grown, and it is with this aspect that this article has been mainly concerned.

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REVIEWS

The Great Depression. By LIONEL ROBBINS. (London: Macmillan, 1934. Pp. viii + 238. 8*s.* 6*d.*)

THIS is a study of the Great Depression from the standpoint of the analytical neo-individualism which has been developing in recent years at the London School of Economics. Professor Robbins assails tendencies which are uppermost in the modern world in economic policy and economic thought, and pleads for a return to old-fashioned principles and traditional policies—for a return to the gold standard on strict pre-war lines and "not on the inflationist lines which caused its breakdown in the years after the war," for a "radical limitation of State activity," for leaving to the business-man "the assumption of risk and the planning of initiative," for capitalism, for Free Trade. But (the question of Free Trade apart) he pleads for these things in an entirely new-fashioned manner. He does not argue that a sound currency must be based on a metal possessing an intrinsic value. He says nothing about the inefficiency of bureaucrats or the damaging effects of high taxation. He makes no point of the stimulus to efficiency supplied by competition, or of the stimulus to exertion and enterprise supplied by the motive of profit. With some of these time-honoured arguments he would doubtless feel considerable sympathy; with others, probably, little or none at all. But in any case these are not the considerations which interest or move him. His attitude is governed by an elaborate and essentially abstract theory of the conditions of economic equilibrium. His quarrel with the experiments in State "interventionism" which he assails is that they do violence to the conditions which this theory suggests as essential for the maintenance of equilibrium. The object of his book is to vindicate this theory by an appeal to the broad facts of the depression, rather than to expound it systematically. In Professor Robbins' words, "the various analytical theorems" which underlie his arguments are not "set out in full rigour." I shall not, therefore, concern myself here with his theoretical analysis, but shall confine myself to his interpretation of the facts, and to the conclusions which he draws from them.

Why, first, did the depression occur? Mainly, Professor Robbins answers, as an inevitable reaction from an inflationary

boom in the preceding years. The Central Banks, at any rate in Great Britain and the United States, were, he contends, too much under the influence of monetary reformers who wished to "manage" currency in the interests of stability and who fastened on a steady commodity price-level as the criterion of stability. The gold which flowed to the United States was not, as is sometimes alleged, "sterilised," but was allowed to form the basis of a large expansion of credit. In Great Britain, on the other hand, there was no contraction of credit, such as there ought to have been, in Professor Robbins' view, according to the true rules of the gold standard game, since the pound was over-valued, and the exchanges were constantly tending towards gold-export point. The decisive phase was reached in 1927, when the authorities of the Federal Reserve system, largely with the object of relieving the pressure on Great Britain, embarked on a vigorous policy of open-market purchases, in order to force down money-rates and thus promote an outflow of gold. This gave a renewed impetus to the inflationary tendencies which were at work, and rendered them uncontrollable until they encountered "the inevitable smash."

Why, next, has the depression proved so unprecedentedly severe? Partly, Professor Robbins answers, because of certain weaknesses "in the political and economic structure" of the post-war period, and partly because of the mistaken policies which have been pursued since the slump began. Under the former head, he mentions political unrest (particularly in Germany), the capital shortage in Central Europe, the large technical improvements in agriculture, the exceptional gullibility of the post-war investing public, and, above all, the diminished flexibility of the economic system as the result of "the cartellisation of industry, the growth of the strength of trade unionism and the multiplication of State controls." Under the latter head he mentions the growth of obstacles to international trade, the attempt in the United States to maintain consumers' purchasing-power by discouraging wage reductions, and the more general attempts to avert liquidation by propping up unsound business positions. Since 1931 the depression has been further intensified by the breakdown of the international gold-standard system. The fall of the pound gave a needed relief to Great Britain from the difficulties of over-valuation (though it would probably have been better for us, in Professor Robbins' judgment, if we had obtained that relief by the alternative route of wage reductions); but it seriously aggravated the difficulties of other countries and

accentuated the fall of world prices. Finally, there came the experimental policies of President Roosevelt. Whether these will suffice to " prevent some degree of recovery," Professor Robbins is unable to say, since the various measures " work in such different directions." But, though some of them, notably the policy of lavish public expenditure, may be helpful to recovery in the immediate future at the expense of causing " subsequent deflationary collapse," Professor Robbins regards all of them as misguided, and he proceeds to deliver an onslaught on the policy of " restrictionism " with particular reference to the limitation of agricultural output, and on the idea of " planning " which amounts in practice in his view to much the same thing.

Professor Robbins then turns to consider the conditions requisite for recovery. He places first " a return to business confidence," and holding that it is " quite clear . . . that, political complications apart, the main danger to confidence at the present time is the fear of monetary disturbance," he demands immediate stabilisation of the exchanges, to be followed later by a restoration of the gold standard on pre-war lines. Next he urges a removal of " the grosser obstacles" to international trade and a lowering of tariff barriers. Finally, he insists that the adaptability of the economic system must be restored by " the elimination of all kinds of inflexibility." By this he means that wage-rates and the selling-prices of commodities must both be allowed to fall when supply exceeds demand, as they would under old-fashioned competitive conditions, and must not be maintained by the power of trade unions in the one case or of cartels or monopolies in the other. To secure the desired flexibility in the latter case, all that is necessary is to withdraw from monopolies the support of Government policy; for " cartel prices have never shown themselves unduly inflexible when the cartels could not depend upon a tariff or other forms of State support." The same principle, he seems to suggest, is applicable to the problem of trade unionism and wages.

> " In order that the market should be reasonably free it is not at all necessary that trade unions should be prohibited. It is necessary only that they, equally with other would-be monopolists, should receive no support from the Government, either direct or indirect."

Elsewhere Professor Robbins argues that the obstinate persistence of heavy unemployment in Great Britain in the years preceding the depression was due to the fact that the trade unions had been relieved by the system of unemployment insurance of their previous responsibility for maintaining the unemployed. " It is one of the consequences of unemployment insurance in

the form in which it existed during that period that it increased the rigidity of wages." Whether he would seek to give effect to the principle of withdrawing Government support from trade unions by abolishing or altering drastically the system of unemployment benefit, or whether he is content with the changes that have been made in it since 1931, he does not say.

The above is necessarily only a bald summary of Professor Robbins' main contentions. He argues his case with great lucidity and argumentative power, with intellectual courage, and, so far as an undeviating adherence to an essentially *doctrinaire* thesis will allow, with considerable open-mindedness and candour. But how far do the facts really justify the inferences which he draws from them? I must confine my critical comments to a few major issues.

Up to a certain point, Professor Robbins' diagnosis will be generally accepted. It is common ground to most economists to-day that, taking the world as a whole, the monetary conditions of the years preceding 1929 were prevailingly inflationary, that the industrial conditions were prevailingly those of boom, and that these conditions contributed largely to cause the ensuing slump. American experience, indeed, during this period has demonstrated fairly conclusively that a steady price-level, when productivity per head is increasing rapidly, is consistent with the development of a dangerously inflationary situation. This was not sufficiently appreciated in the years before the slump by monetary reformers and perhaps not by Central Bankers. It is important that the lessons of this experience should be learnt; and it is reasonable to conclude that a steady commodity price-level is certainly an inadequate, and possibly a false, criterion for avoiding trade fluctuations.

But Professor Robbins' contention that we must restore the international gold standard on pre-war lines, eschewing for the future all attempts at "management," is quite another matter. In urging this, he has two objectives in view: (1) to preserve what he calls "interlocal equilibrium," (2) to avoid inflationary conditions. If, he argues, a country which is "out of equilibrium," and is tending to lose gold, declines to curtail credit and "offsets" its loss of gold by open-market operations, the interlocal disequilibrium will persist. In so far as this is corrected by an expansion of credit in the countries receiving gold, a net world inflation will ensue. Therefore, Professor Robbins insists, a country tending to lose gold must on no account indulge in "offsetting" operations; it must take its medicine of credit

contraction with a view to regaining health on the basis of a lower level of money costs. On this side there is no doubt at all as to Professor Robbins' meaning. He is not only clear, but emphatic. But what of the countries which are receiving gold, possibly in large quantities? Are they equally to refrain from offsetting operations, and to allow a local inflation to develop? On this side, Professor Robbins is neither so emphatic nor so clear. In his general account of what ought to happen under a proper international system he speaks of the Central Banks regulating "the volume of credit in their respective areas by reference to the fluctuations in their holdings of these metals, expanding as they increase, contracting as they contract, and rigorously avoiding 'offsetting' credit creation. . . ." A slight note of hesitation is apparent. "Expanding as they increase, contracting as they contract"; symmetry of treatment is maintained so far, but the obligation to avoid offsetting operations is limited to credit *creation.*

Upon this point Professor Robbins, with his strong anti-inflationary bias, is in a dilemma. He seeks to escape from it by indicating that he has no objection to prudent management of the gold standard on international lines, and that it would be proper and desirable for the Central Banks to concert means of checking an inflationary tendency by varying their reserve requirements. But it is far from clear that he would think it is the least improper for a single Central Bank to check an inflationary movement in its own country by curtailing credit, even though its gold reserves were increasing.

> "If," he tells us, "as soon as there appeared signs of a general boom on security markets, the Central Banks were to take action to bring it to an end, it seems probable that extremes of business fluctuations might be avoided."

I hardly think he would maintain that such action must never be taken by a Central Bank except in concert with others. But does it not then come down to this, that Professor Robbins is in favour of "management" and "offsetting operations," provided they are directed to checking an undue credit expansion, and are never used in the opposite direction? If, however, we were to have management in the one direction only, would we not be likely to get a net deflationary trend whenever serious "interlocal disequilibrium" exists?

Surely the sensible conclusion is that an acute condition of "interlocal disequilibrium" is bound to give rise to formidable monetary difficulties. This brings me to a serious lack of perspective in Professor Robbins' diagnosis. In the post-war

period the interlocal disequilibrium was very acute indeed, and it comprised many more factors than Professor Robbins is willing to admit. It is curious to observe that he refuses so much as to mention the words Reparations and War Debts; and it is evident that he is convinced that these factors are of almost negligible importance in the post-war story. It is one of his dogmas that "given time, prices and costs in the different countries concerned can be adapted to carry through almost any degree of transfer over almost any degree of tariff obstacle." Accordingly, while he is prepared to concede importance to any element of maladjustment that can be expressed in terms of a price or a cost, such as the relatively high interest rates in Central Europe and the over-valuation of the pound, he declines to take account of a gross quantitative disturbance, such as the radical change which has occurred in the balance of international indebtedness. Yet, in the opinion of all those who have been most closely in touch with international economic affairs, this change has proved to be of governing importance. Incidentally, the experiments in monetary management arose directly out of it; for large-scale open-market operations were first adopted by the Federal Reserve authorities in the early 'twenties to prevent an undue credit expansion resulting from the enormous inflow of gold that was then taking place, before the idea had occurred to the villain of Professor Robbins' story, the monetary reformer.

I pass to what is perhaps a more central issue, Professor Robbins' insistence on the need to restore flexibility to the economic system by ensuring that prices and wages are reduced more readily whenever supply exceeds demand. How far does this view gain confirmation from the events of the depression? There are fairly strong grounds for arguing that in the years before the slump the special difficulties of Great Britain were prolonged and aggravated by the comparative rigidity of our wage-rates, and that our enforced departure from gold was largely attributable to this cause. For correcting "interlocal disequilibria" Professor Robbins is on strong ground in demanding flexibility of wage-rates—if flexibility of exchange-rates is not to be allowed. But he is not content with this ground, and, on the general issue, all the main facts, as it seems to me, are arrayed against him. No country has suffered more intensely from the depression than the United States; and in no other country, and at no other time, have such wholesale and drastic cuts been made in wages, salaries and every element of money costs as were made in the United States between 1930 and 1933. The obvious

moral of the American experience is that a general lowering of wage-rates serves to accentuate and perpetuate the vicious circles of depression. Indeed the subsequent adoption by President Roosevelt of policies designed to increase consumers' purchasing-power is largely attributable to the widespread belief in the United States that the idea of countering a depression by lowering wages and money incomes has been shown by experience to be a fallacy.

What has Professor Robbins to set against these facts? Merely that the process of reducing money costs did not begin soon enough.

> "At the outset of the depression," he complains, "other measures were adopted. In the United States the word went forth that consumers' purchasing-power must at all costs be maintained. President Hoover pledged the leaders of big industry to make no reduction of wage-rates. Until the summer of 1930 no serious reduction of wage-rates took place. At the same time, special efforts were made to maintain rates of dividends for shareholders."

Thus, in blaming "inflexibility" for the "economic instability of the modern world," Professor Robbins is pursuing, as it seems to me, a false scent. The instability is a world-wide phenomenon. It is doubtful whether inflexibility in the post-war decade was materially greater than before in any country except Great Britain. For, against the growth in the power of trade unions and cartels, we have to set the decline in the authority of custom which served in the past as an effective restraint on flexibility. The causes of the modern instability lie, in my judgment, elsewhere:—in the disturbance of the balance of international indebtedness, already referred to, and in the disappearance of the rapid growth of population which used to ensure expanding markets for each particular commodity. If the latter point is valid, we are likely to require in future not less, but more "State interventionism."

This, however, is a matter of opinion. Professor Robbins' book is of such a calibre that it can be read both with profit and with appreciation by those who are unable to accept its main contentions.

H. D. HENDERSON

Economic Reconstruction. Report of the Columbia University Commission. (Columbia University Press. Pp. xvi + 250. 15*s*.)

International Economic Relations. Report of the Commission of Inquiry appointed by the Social Science Research Council. (University of Minnesota Press: London: Humphrey Milford. Pp. x + 397. $3.)

WHEN a number of eminent persons of strong opinions sit down round a table to produce for general consumption an

agreed statement on highly complex and controversial matters, the result, whether the subject-matter be theological, political or economic, is apt to be vaguely impressive indeed, but a little lacking in punch, precision and coherence. The first of these Reports cannot be altogether exempted from this criticism: one feels, as no doubt they felt themselves, that each member of the galaxy of distinguished scholars whom Professor MacIver gathered round himself in an attempt to answer President Butler's searching questions could have shone in isolation with a steadier and more penetrating light than is achieved in their gallant attempt at composite illumination. But we must not be ungrateful; and while the serious economic student will perhaps derive more sustenance from the memoranda by individual members which are appended to the main report than from that document itself, the latter does contain a number of agreed conclusions which were well worthy of setting on record.

It is on the monetary side that the Commission, thanks, no doubt, to a series of admirably thorough and balanced memoranda presented by the secretary, Dr. Gayer, came nearest to achieving unanimity and precision. They advocate the maintenance of "equilibrium in the cost-price structure,"—interpreted by the majority to mean approximate stability in the general price-level supplemented by deliberate arrangements to secure diffusion of the fruits of technical progress in the form of rising salaries and wages, thus preventing price-stability from engendering windfall profits: an important minority, however, expresses a preference for achieving the same end by means of a gradually falling level of prices. The Commission are in favour of supplementing banking technique by using Governmental expenditure on public works as a stabilising factor, and by the piling up of "consumers' reserves" (dividend equalisation funds and unemployment insurance funds) in time of boom and their release in time of depression. The danger that this latter measure will aggravate fluctuation by enhancing the ease of the capital-market in boom and its tightness in depression is exhaustively examined in a special memorandum by Prof. Hansen; but Prof. Angell remains of opinion that to be successful such a scheme would require a radical recasting of the banking system. The Commission favour the ultimate re-establishment of a "reformed" international gold standard, and the taking of immediate tentative steps with this end in view: it is probably to be inferred that they would regard the action taken in January 1934, soon after the presentation of their report, as substantially implementing their point of view.

Some of these recommendations, especially that for maintaining an upward pressure on wages by means of the machinery of the National Recovery Act, may be regarded as going outside the purely monetary field; but generally speaking when they leave this well-trodden pasture the Commission are less successful in creating an impression of knowing what they want and how to get it. The terms in which their examination-paper was forwarded to them by President Butler more than hinted that the pace of technical progress was to be regarded as lying at the heart of their problem; and the Commission—Prof. Schumpeter uttering a genially sceptical note—record themselves as duly impressed by the evidence offered to them by engineers of the existence, even in prosperous times, of excess capacity for production. But their condition of impressedness does not lead to any very definite conclusion; and it is left for Prof. J. M. Clark, in an original and provocative memorandum, to analyse the reasons for which "the system may fail to assimilate all its productive power," laying stress on the necessary discontinuity in the production of capital goods and on the wastage of saving in unnecessary duplication of existing types of equipment, and hinting at the disturbing possibility in the background that "the wage system in its conventional form cannot solve the dilemma between wage costs low enough to be consistent with full employment, and sufficient progress towards more equal distribution to furnish the type of market which a system of mass production requires."

The Commission "regard economic planning as a great experiment in statecraft which the times demand," and while they issue a warning of the danger of universal limitation of output involved in the administration of the N.R.A. and A.A.A., they appear to give a general blessing to those measures, and make their recommendation of tariff reductions conditional on the "maintenance of standards" thereunder established. But the principles of interference with *individual* prices and branches of production are not accorded anything like the same full treatment as those of the management of the general price-level; and in their general exposition of the meaning of a "planned economy" the Commission have little to say on such matters, and, with the aid of a somewhat doubtful analogy from the function of "scientific management" in individual enterprises, interpret it rather as "an attempt to establish an equilibrium among all the service factors which accommodate industry," such as the training of labour and the prosecution of economic research, as well as the control of monetary factors already discussed. And their

specific recommendations in the industrial field seem to boil down to one or two suggestions for the improvement of Company Law. Not thus, surely, is "economic planning" understood by our Elliots and Macmillans, let alone our Crippses!

The Commission of Inquiry into National Policy in International Economic Relations, appointed under the chairmanship of President Hutchins of Chicago University by the Social Science Research Council, shared one advantage with the Columbia Commission,—the services of Prof. Hansen, who acted for a time as its secretary and director of research, and whose instructive study of America's foreign trade position makes up a considerable part of the volume which it offers to the public. But it also enjoyed advantages which were not available to the Columbia professors,—the financial aid of the Rockefeller Foundation, the narrower limitation of its terms of reference, and the date, later by nearly a year, of the issue of its report. It has thus been assisted towards setting out, in the forefront of its report, a number of recommendations of remarkable clarity and boldness.

Its main thesis, based on a lucid exposition of the general principles of international exchange and of the peculiar position of the United States, is that that country must take steps to increase, swiftly and largely, the volume of its imports, unless it is prepared to accept a drastic reorganisation of its economic life, and in particular a drastic curtailment of its agricultural production. It is argued with overwhelming force that the existing situation of a large international surplus on current account "all dressed up with no place to go," as Mr. George Putnam picturesquely puts it,—a situation which has been aggravated by the low level at which the dollar has been stabilised, and which has resulted in the import of more than a milliard dollars of gold in 1934—cannot continue without gravely disturbing consequences. It is further argued that, whatever may have been the merits or demerits of dollar devaluation in the first instance, the *fait accompli* offers a golden opportunity to the United States of scaling down its trade barriers without submitting to the pains of actual deflation.

Hence the Commission recommends a substantial lowering of the tariff,—not by the method of a uniform percentage reduction, but by concentrating first on complete removal in those cases in which no serious addition to unemployment would result,—for instance, articles supplied almost wholly from abroad. But if this is found insufficient they recommend the lowering of duties on

other articles, provision being made that the permitted volume of imports under the new rate "should not be greater than a stated volume, say, 5, 10 or 20 per cent. *more* than the average yearly imports of the preceding ten years, or of the preceding year, or of the year of largest imports—whatever is deemed wisest. Any goods offered for import in excess of this volume would be required to pay the old duty." Further, "we recommend that the Government consider the payment, under proper safeguards, of a dismissal wage to labour thrown out of employment as a direct consequence of sudden changes in the tariff." Pending the adoption of this course, they recommend that the greatest possible use should be made of the powers at present possessed by the President to effect tariff reductions of up to 50 per cent. through the negotiation of reciprocal trade agreements; but they are fully alive to the drawbacks of bilateral agreements, and their minds turn, as have those of the advocates of freer trade in other lands, to the idea of a group of nations "pledged to lower tariffs as rapidly as possible, to abide by a set of necessary agreed-upon rules of trade, and to make available to all members of the group any concessions made by any member to any other."

The Commission make a number of other important proposals in the sphere of international dealings, including repeal of the Johnson Act forbidding loans to countries in default, and measures designed to prevent the use of sanitary embargoes, etc. for discriminatory purposes. They advocate the transfer to the Tariff Commission of the tariff-making powers of the N.R.A., and while acquiescing in a limited subsidisation of agriculture, condemn, in the interests of the export trade, the price-raising policy of the Government, especially as manifested in the system of cotton-loans. Their conclusion that "the maintenance of a large deficit, as an emergency measure, is nowise dangerous to our financial structure" is tempered by a warning against permitting a rapid increase in costs of production and by a recommendation that "the administration prepare itself for quick transition . . . to a surplus position and to a programme of debt retirement."

The report is followed by a number of selected memoranda, among which it is perhaps permissible to single out for special mention Mr. Clayton's informing study of the position of American cotton in the world market, and a gloomy and impressive paper by Prof. Angus of British Columbia University on responsibility for peace and war in the Pacific. The whole volume constitutes a most powerful and timely plea for the view that, in the words of

one of the contributors, "monetary policy will not solve a trade problem."

It would be ungracious for an English reviewer to conclude without recording that both these important Commissions declare in favour of a speedy settlement of the war-debt question by a procedure amounting to something not far removed from cancellation.

D. H. ROBERTSON

The Supply and Control of Money in the United States. By LAUCHLIN CURRIE. (Harvard University Press: Humphrey Milford. Pp. xvi + 199. 10*s.* 6*d.*)

THE argument of this able and stimulating book may be summarised as follows. Whatever be the proper objective of monetary policy, control of the supply of money is an essential instrument for its attainment, and is indeed the main *raison d'être* of a Central Bank. In the United States this control is very imperfect. This is partly due to certain technical features in the structure and operation of the Federal Reserve System, the most important of which is perhaps the fact that the unwillingness of the member banks to remain in debt to the Reserve Banks—itself a factor favourable to efficient control—varies as between different times and as between different classes of banks. But it is also due to the fact that control of the supply of money has never been the avowed object of the reserve authorities. For historical reasons the supply of the most important type of money—demand deposits—has become inextricably bound up with the business of lending and investing, and the authorities have taken the character and quality of bank loans and investments to be their chief object of concern. Such control as they have achieved over the volume of money has thus been achieved largely by accident; and on many occasions, even with the imperfections of the existing machinery, they might have achieved better results if they had made this their main objective, instead of allowing themselves to be deflected by extraneous considerations.

Mr. Currie's case is developed with the aid of much ingenious argumentation and painstaking statistical research. His chapter on the fatal ambiguity of the word "credit" is especially worthy of study by all who aspire to mould opinion on monetary matters. And in the central chapter of the work, entitled "The Monetary Theory versus the Commercial Loan Theory of Banking," he effectively destroys the theoretical foundations of that doctrine of "productive credit" which finds its most coherent expression in the famous Federal Reserve Report for 1923. The question which

he poses remains, so far as I know, unanswered by those who shake their heads over the growing entanglement of the American banks with the long-term capital market in the years preceding 1929. What is to happen if, as seems to have been the case in America in those years, the desire of the public to make savings in the form of bank deposits is increasing, while for reasons connected with the structure of business the demands made by industry and commerce on the banks for working capital is suffering a secular decline? Whatever our exact formulation of the concept of "monetary equilibrium," how can we hope for it to be maintained in such circumstances unless those institutions which have the virtual monopoly of the creation of money are prepared to issue it through the route of participation, in one way or another, in the formation of fixed capital? Observing that in the depression "the English banks offset the decline in their loans to customers by increasing their investments so that deposits were actually higher in January 1933 than in 1930," Mr. Currie is inclined to conclude that this problem is nearer solution in England than in the United States; but this perhaps is to over-estimate the speed and certainty of the process by which the purchase of existing Government securities works through to an increase of industrial investment, and to under-estimate the strength of the tradition, far stronger in England than in the United States, that it is not the banker's job to tie up his depositors' funds in the construction of fixed capital. Undoubtedly the chief reason why the arguments of bankers and their critics so often fail to meet is that the former are concerned with justifying their stewardship of individual savings, while the latter are really impugning the efficiency of the whole machinery of banking as a money-factory. And undoubtedly Mr. Currie has put his finger on a long-run problem which, if it cannot be solved by light-hearted advice to Anglo-Saxon bankers to mould themselves upon the Credit Anstalt and the Danat, is none the less a real problem because the individual banker, glowing with the consciousness of individual virtue, does not feel called upon to recognise its existence.

Mr. Currie's own ideal solution, which it is fair to add that he does not in the least expect to see realised in practice, is for the Government to take over the whole business of issuing demand deposits as well as notes, controlling the volume of money thus defined by means of the current operations of public expenditure and taxation as well as the purchase and sale of securities, and leaving the banks to conduct the old fashioned loan business by

the use of their time-deposits. The presentation of the scheme is somewhat sketchy, and is coloured by the inflation-bacillus whose presence one cannot help detecting in Mr. Currie's blood, and which leads him to assume that the Government action called for will almost always be in an expansory direction. Further, it is not clear that the solution of the problem of stagnation, where that arises, is necessarily more than verbal; for since any account with the Government is to be *called* a demand deposit and therefore "money," money created by the purchase of securities "might remain unspent but it could not be extinguished" (if it were put on time deposit with a bank it would presumably become a demand deposit of that bank with the Government): yet we might be no farther on towards maintaining the flow of expenditure and income. Nevertheless, if only as an illustration of the principle that the operations of public finance may have a vital part to play in the technique of monetary control, the scheme is well worth letting the mind play upon.

In default of its realisation, Mr. Currie makes a number of suggestions for the improvement of the American banking system, which run mostly on familiar lines, and upon which I have no space here to comment.

It is in his treatment of the problem of cyclical fluctuation that Mr. Currie most leads one to fear that if he were allowed to superintend the working of his own policies the inflation-bacillus might be found in practice to assume control. It is true that in set terms he recognises the need for contractionist as well as expansionist policies and the fact that it is not only the quantity of money but the rate and character of its spending that counts; but his criticisms of the actual course of Federal Reserve policy lead one to doubt how large a part the recognition really plays in his own processes of thought. True it is that in the American experience of 1922–9—the "sloom followed by a bump"—long-term deflationary and short-term inflationary forces seem to have been interwined in a most puzzling skein which it still remains for history completely to disentangle. But I feel that it needs more than Mr. Currie's figures of money-supply, from which, it must be remembered, time deposits are excluded altogether (and even the new money which finds its way on to time deposit must have been expended at least *once*) to persuade one of the significance of his conclusion that "from the view-point of the supply of money the period from 1925 on was one of increasing monetary stringency, reaching an acute stage in 1929." And if the doctrine that "it will be at times essential that energetic action be taken

before the forces making for an up-turn or down-turn in business are in full swing " is to be interpreted to mean that the machinery of reflation should be set in motion even before the boom breaks, one is tempted to fear that the execution of his clear-cut and somewhat mechanistic programme might lead in practice to even worse results than that halting application of untenable theories which he charges against the Federal Reserve authorities. But these things are, and are likely to remain, subjects of acute controversy; and in any case for his attempt to clear our heads on a fundamental matter of great importance, as well for his statistical labours and acute suggestions on points of detail, Mr. Currie deserves our thanks.

D. H. ROBERTSON

Australia in the World Crisis, 1929–1933. The Alfred Marshall Lectures delivered in the University of Cambridge, October and November 1933. By DOUGLAS COPLAND. (Cambridge University Press, 1934. Pp. xii + 212. 9*s*.)

THIS is a good book. No economist can fail to be interested in Australia, where, for the past four years, the plans of the Economic Men have been put into practice. One of the leaders of the Economic Men, in their battle against the Sound Financiers and the Unsound Utopians, has been Professor Copland. He was chairman of the committee which evolved the famous " Premiers' Plan "—or, as he prefers to call it, the " Economists' Plan." In this book, therefore, he is telling his own story. And an interesting story it is; interesting not only to the reader who has paid little attention to the Australian economic experiment and who wants a clear, concise, readable account of what has occurred, but interesting also to the reader who has tried to keep abreast of Australian developments and who will find there both an admirable summary of the masses of information and opinion through which he has ploughed and a trenchant defence of Australian economic policy against all critics.

There is no need to recount here the story of Australian revival which this book contains. The general outline of the Economists' Plan—reduction in basic wages, reduction in internal interest charges, depreciation of exchange, and expansion of central and commercial bank credit—is generally familiar. As for the details, they may be found in the book itself.

Canadian economists, no doubt in common with those of other Dominions and young countries, have had the Australian success upon their minds, if not their consciences, for some years; and

they are by now inclined to regard Australian economists with an eye somewhat jaundiced by jealousy. It is gratifying to find, therefore, that Professor Copland takes the fourth of his eight chapters, entitled "The Flexibility of Institutions," to explain some of the circumstances, particularly favourable to success, which existed in his own country. Three pieces of machinery receive specific attention. Professor Copland does not fail to point out that in the halcyon days before 1929 the rest of the world was prone to regard the Australian Arbitration Courts as instruments whereby wages were forced up to an uneconomic level, and that the political parentage of the Commonwealth Bank was such that it was regarded with scarcely less suspicion. Nevertheless, without a well-established and well-trusted Arbitration Court, the general reduction of money wages and costs would have been politically and economically impossible. To the Commonwealth Bank Professor Copland gives the credit of providing a ready means—finance by rediscountable treasury bills—whereby the governments could secure accommodation for relief and other expenditures without tightening the money market. It is not surprising that the Bank should receive little credit for courageous leadership or for bold strokes of finance; but it is surprising that practically no mention should be made of the Bank of New South Wales, from which such leadership was actually forthcoming. Surely this bank, which broke away once to lower the exchange rate and once to reduce the deposit rate, and which thus forced a progressive policy on the rest, including the Commonwealth Bank, has every right to special mention as one of the institutions which supplied the flexibility required by the plan? The third institution to be discussed is the Loan Council. It is difficult for one who has never studied the economics of a federally constituted country, where the borrowing powers of the federated units are unhampered, to realise how indispensable to economic sanity is the centralised control of public borrowing. Among the sweetest uses of the relatively early arrival of economic adversity in Australia was the surrender to the Council by the states of their autonomy in borrowing.

Although a moderate inflationist, Professor Copland does not set much store by public works as a remedy for Australian depression. He says: "In a depression there is much to be said for relaxing financial standards to provide work for unemployed pending recovery. But Australia had a special problem in her public works expenditure. She had been spending £40 m. to

£50 m. per annum before the depression, and she could not look forward to a resumption of loan expenditure on this scale. . . . At the end of an era of great constructional expenditure, additional employment must be found in export industries or in industries competing with imports" (p. 64). The only exception which can be taken to this argument is regarding the suggestion that the Australian situation in 1929 was in any sense unique. On the contrary, it was the rule for raw material producing, capital importing countries. In such countries a boom is ordinarily based upon high money incomes of the primary producers. Not only are living standards high, but the whole capital equipment of the country is rapidly expanded, by public as well as private enterprise, in fulfilment of the chief purpose of the country's economy, which is the production, movement and marketing of the primary products. When world demand for these products fall, and their prices decline, the existing equipment appears so redundant and its value falls so rapidly that capital expansion for private profit is out of the question. At the same time, public authorities find their obligations increased and tax revenues falling off, so that the interest rates which they have to pay rise rapidly and prohibit substantial borrowing through ordinary channels for public works. Even if, in the face of these difficulties, public works are undertaken they will not "prime the pump" as they may be expected to do in countries where the primary cause of depression is a contraction in the capital goods industries themselves. In the latter case the new purchasing power is expected indirectly to stimulate the capital goods industries themselves, and by going to the root of the trouble eventually permit the withdrawal of the "artificial" stimulus. In the former case, however, nothing is done to remove the originating cause of the depression—the diminished purchasing power of the primary producers. Indeed, in so far as the expenditure of public moneys indirectly supports the prices of consumable goods, these unfortunate producers will actually be worse off than before. We may therefore conclude that, in a country such as Australia, a public works policy may be definitely harmful in that it may increase the hardships of those already suffering most. On the other hand, it may be beneficial if it is judiciously used in conjunction with other measures, such as exchange depreciation, which revive the flow of national income at its dwindling source.

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Theory of the Credit Standard. By HANS GLÜCKSTADT. (London: P. S. King. 1932. Pp. xv + 345. 15*s.*)
The Mechanism of the Credit Standard. By HANS GLÜCKSTADT. (London: P. S. King. 1933. Pp. xiii + 111. 7*s.* 6*d.*)
The Foundation of Industrial Stability. By E. M. DALTROFF. (London: P. S. King. 1933. Pp. vii + 138. 7*s.* 6*d.*)
The Economy of Abundance. By STUART CHASE. (New York: Macmillan. 1934. Pp. vii + 327. 8*s.* 6*d.*)
The Money Muddle. By JAMES P. WARBURG. (London: George Routledge. 1934. Pp. x + 273. 7*s.* 6*d.*)
Douglas Delusions. By F. J. DOCKER. (Sydney: Angus and Robertson. 1933. Pp. vii + 243. 4*s.* 6*d.*)

IN the first of these books Mr. Glückstadt builds up his theory of money. He is a quantity theorist of the "Cambridge" rather than the "Fisher" type; but he claims that the stabilisation of the price level as ordinarily conceived should not be the object of monetary policy. Fluctuations in this level are the result of both monetary factors and factors inherent in the nature of the supply of goods, and it is only the effects of the former that should be offset by monetary policy. In *The Mechanism of the Credit Standard* he explains that this may be effected by the deposit of all the world's gold reserves in an international bank and by the annual expansion of the total money supply to meet a mathematically calculable annual increase in demand for money. This expansion should be distributed among the various nations in accordance with their needs.

Mr. Daltroff's book is devoted to an elaboration of the thesis that national industrial stability is comprised of two components—lateral stability between industrial groups and forward stability in the supply to the community of sufficient income to purchase the gradual increase of national production. Stability of both types may be achieved by the introduction of a gradually rising minimum wage. Stable exchange rates are necessary to international stability. International co-operation is needed to secure rising wages and stable exchanges.

How delightfully different from all this is *The Economy of Abundance*! Not that, from the pure economic standpoint, it is a good book. Hardly a page but has its economic howler. But Mr. Chase is thoroughly alive to the difficulties and complexities of the American world in which he lives. He is not even certain that there is a Way Out. Power—coal and hydro-electric—marches forward hand in hand with scientific invention; while puny mortals—bankers, industrialists, politicians—strive

to maintain or recreate that beneficent scarcity which the interlopers would annihilate. Meanwhile the metropolitan area, Megalopolis, develops into a city-state within the state. These are not new ideas: but they do concern deep problems of social development. *The Economy of Abundance* contains an abundance of ideas; and these must be its justification, for there is an economy of analysis. Nor can the book seriously pretend to offer any solutions of the problems raised. Mr. Chase suggests some rules for the guidance of a regulatory General Staff. But the fundamental questions, Who? and How? he (wisely) does not attempt to answer.

One-third of *The Money Muddle* is interesting and important; the other two-thirds are not. In the first part Mr. Warburg writes some bad and obsolete monetary theory which is as dull in content as it is bright in execution. In the second part he tells a vivid story of his associations with President Roosevelt and of his experiences as financial adviser of the American Delegation to the World Economic Conference of 1933. He explains that he felt forced to resign from that position because the President's anti-stabilisation and pro-commodity-dollar pronouncements during the Conference were radically different from the original instructions which the Delegation received. On his return to the United States Mr. Warburg was confronted by a variety of conflicting plans, policies and professors. Towards all these he takes a common-sense, cautious, and by no means illiberal attitude. But in the third part of the book he relapses into theoretical justifications which seriously detract from the force of the advice—conservative advice—which he has to offer to the great American public.

Mr. Docker undertakes to call other sinners to repentance. It is difficult to know what is required to convert a Douglasite from his Douglasism. When compared with the refutation of the Douglas theory (or theories) by Mr. Gaitskell in *What Everybody Wants to Know About Money*, Mr. Docker's work appears neither so elegant nor so dispassionate; but since neither of these qualities can possibly appeal to a devotee of Douglas, it may be that *Douglas Delusions* is the better suited to its purpose. In any case it is much the more comprehensive. There are penpricks for all the Major's works and for those of his chief supporters. Although convinced that he is dealing with "Arts Scribblative and Babblative," Mr. Docker takes his task seriously and accomplishes it effectively.

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The Menace of Recovery. By W. MACDONALD. (Macmillan. 1934. Pp. 401. 10*s*.)

Will Roosevelt Succeed? By A. FENNER BROCKWAY. (Routledge. 1934. Pp. 248. 6*s*.)

Mastering the Crisis. By IRVING FISHER. (George Allen and Unwin. 1934. Pp. 168. 5*s*.)

A Handbook of N.R.A. (2nd edition). Ed. by L. MAYERS. (Federal Codes, Inc. 1934. Pp. xxiv + 844. $6.50; with supplements to December 1934, $10.00.)

IF economic recovery in the United States were a matter of words written and spoken, America would be well on its way to prosperity. That such is not the case there is decisive evidence in persistently accumulating bank reserves and the almost total absence of new or even refunding issues apart from those of the Federal Government. Private investment, both on short and long term, is virtually at a standstill. Nor has spending for consumption increased beyond the standard to which the depression has accustomed the various classes in the country. A national real income of under two-thirds the 1929 total has been made to "go round": the process has successfully discouraged all expansion. After a more or less careful glance at their cards the individual players under the New Deal have in turn decided to pass.

This simple outcome of the programme of the Roosevelt Administration none of the four books under review contemplates. Concerned with different aspects of that programme and very unlike in scope and treatment of their subject, these books nevertheless all see in what has been taking place implications for the future of American economic development which the logic of events has already set at nought. This means, not that the books are valueless, but that their value is to the student of the history and psychology of the period rather than to those who seek an unmoved appraisal of the various phases of the experiment.

In *The Menace of Recovery*, after an admirably succinct account of the diverse measures of governmental intervention, Mr. Macdonald in his last pages looks fearfully at an obvious trend towards the reorganisation of American society on collectivist lines—more Fascist, perhaps, than Socialist but with features of both. He is right in concluding that there is no dictionary that defines recovery in terms of the fruits of the Administration's policy so far, but the "obvious trend" which is the basis of his fears is already vanishing, if ever indeed it had any reality.

Mr. Fenner Brockway, having made literally a flying tour of the United States and sketched vividly the panorama spread out before him, answers his question, *Will Roosevelt Succeed?* in the negative, but for reasons opposite to those of Mr. Macdonald. To him "President Roosevelt has approached his tremendous task without a social philosophy or the key to economic understanding." Fail Mr. Roosevelt must, because he is attempting "the task of sustaining an economic system which has outlived its day." Is Mr. Brockway's wish father to his thought? He sees and points out clearly (p. 227 ff.) the continued strength of capitalist control of American industry and the absence of any aim on the part of workers in general to overthrow the system. Yet, curiously, the logical inference escapes him that private enterprise in the United States is likely to alter little fundamentally in the near future for better or worse.

Mastering the Crisis, true to its title, strikes a more confident note. Famous as a preacher against slavery to a constant gold dollar, Irving Fisher hails as "the New Emancipation Proclamation" President Roosevelt's declaration (May 7, 1933): "The administration has the definite objective of raising commodity prices to such an extent that those who have borrowed money will, on the average, be able to repay that money in the same kind of dollar which they borrowed." The various official measures adopted to this end, as well as the general evils of a system in which contracts are fixed in dollars and dollars fluctuate in goods, are set out by Professor Fisher in simple language in the Little Arthur tradition. Although Professor Fisher truly assesses the gold purchase policy of the American Treasury in the autumn of 1933 as no more than a dramatic gesture in view of America's abolition of the gold standard, he still seems to believe that the devaluation of January 1934 must lead to a rise of internal prices, omitting to notice that the nineteenth-century chain of causation is broken to-day at many points. Again, although he is ready to recognise the familiar general proposition that decreases in the velocity of circulation of money may offset increases in its quantity, he seems blind to the ample evidence before his eyes that every actual or threatened attempt on the part of the government to depreciate the dollar by the expansion of its floating debt (whether in the form of Central Bank credit or notes or even greenbacks) has met defeat through reduction in the turnover of individual deposits and holdings of currency. Instinctively by this means business men and the general public have so far secured absolutely effective protection of the enhanced

real value of what has become their chief asset. Professor Fisher would meet this defence (which he does not recognise as such) by "a nation-wide application of Stamp Scrip"—special notes carrying a weekly 2 per cent. tax! Why not, one wonders, a 2 per cent. weekly tax on deposits? Reason would suggest, rather, that at present the most potent single means of stimulating ordinary outlay would be a convincing assurance by the government that it would not institute further deliberate bear raids on the dollar.

Another constructive step would be a declaration of policy with regard to the National Industrial Recovery Act which expires in June 1935. The able editor, Dr. Lewis Mayers, of *A Handbook of N.R.A.* (with semi-monthly supplement) says in his preface: "There has indeed sprung into existence in this half-year not merely a wholly new body of industrial law, but a vast new machinery of industrial government, both legislative and judicial. . . . Before our eyes, a vast state within our state is swiftly taking form." As a compendium of information on these matters this volume could hardly be excelled. Not only are the texts of the Federal and State Laws, the Codes and Regulations under them given, but also short histories and summaries of the different measures and a full comparative analysis of their respective provisions from the point of view of their constitutionality, the scope of their application, the principles they embody, and the machinery of their enforcement. The Handbook bears witness that the statement of its editor contains no exaggeration. But the effectiveness in operation and permanence of this superimposed Constitution for industry is another question. Let us not forget Prohibition! Dr. Mayers himself notes (p. 40) that the famous single mandatory section (7*a*) of N.I.R.A., that every code shall contain the condition that "employees shall have the right to organise and bargain collectively through representatives of their own choosing . . ." may be, and in interpretation has so far proved, quite meaningless. It is, moreover, by now generally admitted that although the work-spreading features of the scheme have led to some increase in numbers employed, the total real earnings of labour engaged in private enterprise have probably decreased—owing partly to the tendency for minimum to become maximum wages, partly to curtailment of hours, and partly to the use of those sections of the Codes relating to unfair competition for the purpose of forcing up retail prices. Labour is not pleased. The small entrepreneur feels handicapped, and the large entrepreneur is impatient or successfully recalcitrant. The

consumer offers passive resistance to shouldering the burden of increased unit costs. It would seem that N.I.R.A., if renewed, and the Codes under it, must undergo revision, as drastic as the Securities Act has already undergone.

The Roosevelt programme has to its enduring credit that it has fed and clothed and housed millions of American workers and their families during an unparalleled depression. It has probably also put a final end to child labour, and provided against the recurrence of certain financial and speculative abuses at least in their previous form. The drought, followed by some timely rains, has helped to accomplish the purpose and subordinate the untoward features of agricultural policy. The devaluation of the dollar is likely in the long run to prove advantageous. For these reasons, together with the important fact that the Government's borrowing policy has enabled the banks and the relatively wealthy in the absence of other attractive openings to acquire income-bearing investments secured upon the future taxable capacity of the country, the Roosevelt Administration retains public favour. Let it announce the continued maintenance of the unemployed by outright relief and by public works, the latter on a gradually diminishing scale. Let it renounce all *mala fastidia*. To its credit then might also be added ordinary industrial recovery. Signs of economic revival in the United States were not lacking in 1932. The present slow improvement in world conditions should foster it, granted a respite—which the composition of the new Congress makes all too uncertain—from ill-advised economic experiment.

M. TAPPAN HOLLOND

The Canadian Economy and its Problems. Papers and Proceedings of Study Groups of members of the Canadian Institute of International Affairs. Edited by H. A. INNIS and A. F. W. PLUMPTRE. (Canadian Institute of International Affairs, Toronto. Royal Institute of International Affairs, London. 1934. Pp. 356. 10*s.* 6*d.*)

THE Canadian Institute of International Affairs is to be warmly congratulated on the publication of this interesting and vigorous volume. We have had similar publications from the London Institute. It is of great importance that those concerned with the problems of British monetary policy should have in mind the special difficulties which beset the various parts of the Empire. Much has been heard recently of the sterling area; and it may well be taken as an obvious desideratum that

the whole Empire should form a part of it. If by this it is meant that its special opportunities for mutual monetary collaboration should be exploited to the full, in order to secure the greatest possible advantages that can accrue from such collaboration to the whole Imperial area, not only can no objection be taken to the project, but it is clearly one to be ardently supported and furthered. But if it is meant that the Empire should form part of a single monetary system with fixed exchange rates between its parts, then perusal of this volume may well give rise to reflections having a contrary tendency. For instance, it might well turn out upon investigation that in the event of a concerted drive for expanding output, greatest stress in this country should be placed on additional loan expenditure, while in Canada greatest stress should be placed—I am suggesting this as a possible moral for the reader and *not* as the conclusion of the authors of the present work—on raising the price level of her exports by devaluation.

The Canadian Economy and its Problems is divided into two parts. The first consists of studies contributed by experts on various features in the Canadian economic background, the second of papers presented to a study group of the Canadian Institute, together with reports of discussions to which they gave rise, relating to the specific problem of central banking.

The former section is prefaced by an invigorating essay by Mr. H. A. Innis on the implications for political and social philosophy of modern economic trends. It is packed with interesting ideas; the developments which suggested them are still too near for the author to have been able to reduce them to systematic form. There follow chapters on the wheat problem, the mining industry, newsprint, public finance, the railways, the depression in Saskatchewan, monetary policy, the trade cycle and other topical subjects of fundamental importance. These are mainly descriptive, but various proposals are suggested in passing. For instance, Mr. D. C. MacGregor who writes on Public Finance, would like to see the National Debt converted on to an " equity " basis, so that the yield of Government stock would automatically vary with changes in the national income and the price level (p. 60). This would accommodate " overhead " burdens to the state of trade. Mr. Buchanan, on the other hand, considers a proposal, similar in principle, for linking railway rates to prices, and pronounces against it (p. 84). In fact, the case for flexible railway rates seems the stronger of the two, for in the short period railway rates are a cost in a more direct sense than taxation.

Mr. Plumptre, who contributes a chapter on money in the first section, takes a stronger line than most of the members of the money group, whose report constitutes the second. He does not think that Public Works policy would contribute much in the special circumstances of Canada; he regards the price level of exports as of crucial importance and is prepared to go far in maintaining it by exchange regulation.

The chapter on the Constitution is of great interest. The clause of the British North America Act reserving the subject of "property and civil rights" to the provinces has been so interpreted by a series of judicial decisions in recent years as to be a grave obstruction to central economic policy. An amendment seems clearly called for.

The second section deals with topics similar to those discussed in *The International Gold Problem* of the London Institute, but with special reference to Canada. As may be expected, a divergence of views appears. Public works are on the whole favourably regarded; but a balanced budget is considered to be of primary importance. Against a background of feeling that there is an urgent need for vigorous action, the contributors become somewhat timid and conservative in working out the details of monetary policy. They do not grasp the nettle. They implicitly leave the more fundamental work of reconstruction to some other—unspecified—department of economic planning. But that is always the way!

The editing is excellent. The parts are well-balanced, the subject-matter is uniformly of a high level of interest, and the whole is most readable. The contributors are well-informed and their method of approach lucid, virile and straightforward. It will richly repay the attention of students of monetary policy or of inter-imperial economic relations. R. F. HARROD

Foreign Investments in China. By C. F. REMER. (New York: Macmillan. 1933. $8\frac{1}{2}''$. Pp. 708. 25*s*.)

"FOREIGN Investments in China" are of considerable interest alike from the points of view of business, politics and economic theory; and Mr. C. F. Remer has rendered a public service by undertaking painstaking and careful researches whose results he has published under this title. He has here compiled, classified and analysed the different categories of investments, explaining their origin, amount, distribution and any special features in each case. He reckons their total value in 1931 at about (U.S.)

$3,300 million, which is twice as much as in 1914 and four times as much as at the beginning of the century. Great Britain holds the highest proportion, being still somewhat ahead of Japan, whose trade, however, has outstripped hers and whose resident population exceeds that of all other foreign countries put together. Politically the subject is equally important, since any tension between the external powers, or between one of them and China, is bound to find its expression, and likely to find its origin, in some one or other of the foreign investments.

From the economist's point of view the problem of China's balance of foreign payments, the standing enigma of her economic situation, is of especial interest.

China has for the last three years had an adverse balance of payments. This is easy to account for. What is much more puzzling is the large positive balance which she enjoyed before, as measured by the net import of precious metal. The balance of visible trade has always been adverse in modern times, but in spite of this the invisible exports and capital import brought a total of some (Chinese) $1,000 million [1] of net silver imports into the country in the first thirty years of this century, and in the three years 1928–30 the average annual net import amounted to (Chinese) $140 million. Since then, and especially in 1934, there has been a large net export, but it is the earlier period with which Mr. Remer is dealing. He has carried the study into the baffling problem further than any previous writer, though the able reports of the Bank of China have since thrown more light on several of the most important factors, especially the "overseas remittances" from Chinese residents abroad. Mr. Remer's estimate for the year 1930, the latest analysed in his book, is as follows:

Out-payments.	(Millions.)	In-payments.	(Millions.)
(a) Government Debt . .	$111·4	(a) Overseas Remittances .	$316·3
(b) Business Investments .	198·0	(b) New Investment . .	202·0
(c) Merchandise Imports (recorded) . . .	1,964·6	(c) Merchandise Exports (recorded) . . .	1,342·3
(d) Miscellaneous Chinese Payments abroad .	42·0	(d) Miscellaneous Foreign Expenditure in China.	218·0
	$2,316·0		$2,078·6

It will be noted that these items, so estimated, show an excess of out-payments over in-payments of $237·4. In spite of this, however, there was a recorded net import of the precious metals of $75·6 (silver imports $100·5 million, gold exports $24·9 million).

[1] Dollars are Chinese except where stated to be U.S.

There was, therefore, a difference to explain of no less than \$313 million. Mr. Remer reduced this to \$290·5 million by allowing \$22·5 million for unrecorded gold exports. In view of the gold exports from Hongkong that year (when the gold embargo was first enforced), I think this estimate is fully justified, and that if anything it is under the mark. He next proceeds to allow 10 per cent. for under-valuation of exports, thus reducing the difference to \$156·3, which he declared himself unable to explain. I feel, however, that it is difficult to make this allowance, for though there was certainly some under-valuation of exports there was also some under-valuation of imports, and I know no reason to think this was of a smaller order of magnitude; and in addition merchandise imports were smuggled in on a considerable scale, whereas smuggling of merchandise exports was comparatively small. Mr. Remer has therefore failed to trace the origin of favourable items amounting to some \$300 million; and he has thus failed to find the solution of the mysterious problem of China's positive balance of payments up to 1932.

I have always thought that Mr. Remer greatly under-estimated the amount of the overseas remittances up to that date; and subsequent information tends to confirm this view. But much too little is still known of this extremely important factor in China's accounts. It is a question that would well repay further study, for in the present situation the possibilities of some recovery in these remittances is of the first importance to the whole of China's balance, and may make the decisive difference as to her future currency policy.

The treatment of this question illustrates both the merits and the limitations of Mr. Remer's book. His penetration is not equal to the patience of his research. Nevertheless, his book is a useful one and all those who are interested in China are likely to find it for long to come the most useful storehouse of well-arranged information in the field it covers.

ARTHUR SALTER

The Social Survey of Merseyside. Edited by D. CARADOG JONES with the assistance of J. E. MCCRINDELL, H. J. H. PARKER and C. T. SAUNDERS. Secretary: N. L. HUME. Vol. I, pp. xxii + 328, 15*s.*; Vol. II, pp. xvi + 413, 21*s.*; Vol. III, pp. xviii + 560, 25*s.*; set of three volumes, 45*s.* (University Press of Liverpool; London: Hodder and Stoughton. 1934.)

THE completion of 1357 pages of closely packed evidence of social conditions in a highly specialised shipping area impels the

Director of the Survey to meet the inquiry "What is the good of it all?" in his preface. His own reply is, "To get some idea of the nature and extent of the problems to be solved," this being the indispensable first step to effective reform. Much more appears to be both attempted and achieved. The three volumes combined give an accurate statement of the nature and extent in Merseyside of the problems of population, immigration, overcrowding, poverty and housing (Vol. I); unemployment, its local causes and effects, the mobility of labour, and the industrial prospects for the area (Vol. II); and the available public means of meeting distress and preparing individuals of all ages for social life (Vol. III). They contain exact information of the existing measures through which the almost overwhelming difficulties of the area are being engaged. They estimate in figures the success or failure of the treatment, and they contain more than a hint of the means for dealing with unsolved evil.

From such a survey an occasional illustration only is possible. One problem from which the British public has persistently turned its face is that of mental deficiency. In a stumbling attempt to be kind it educates the mentally defective children of mentally defective parents at a cost twice that of ordinary education, then releases them to take their place as free citizens. According to the Survey, out of 715 cases traced of young persons thus released, nearly 20 per cent. were in institutions or placed under supervision, a further 20 per cent. were recommended for supervision, 10 per cent. had died, and of the remainder, many were partly maintaining themselves in the home so that they were not "too great a burden on the families." Being free, many marry, and their fertility appears to exceed that of other classes. In "defective" families the average number of children born per family is shown to be 7·16 as compared with 3·92 for ordinary working-class families. Typical pedigrees are quoted as evidence of the transmission to children and grandchildren of the tendency to mental deficiency. Statistical tables are given in support of the general contention of Dr. Tredgold, that "strictly speaking there is no such thing as the inheritance of mental defect or insanity; what is inherited and what is transmissible is a pathological germ material, in other words, the neuropathic diathesis. In some families I have been able to trace the origin of this diathesis and its progressive increase, generation by generation, until it has culminated in mental defect."

The Director of the Survey states that the Departmental Committee on Sterilisation invited him to give evidence. His inquiries entitle him to speak, and enable others to perceive not

only " the extent and nature of the problem," but also the urgency of discovering the adequate remedy, and the number of generations of difficulty which will yet have to be endured as a result of past refusals to face the issue.

The investigators seem to possess an unerring instinct for placing a finger on the unexpected, and most significant, factors of social distress. " Broken families " are said to represent as much as one-sixth of the households in the area, and give rise to the chief problem of maintenance. " Broken families " are defined as those without a male adult breadwinner, the cause of their state being the death of the husband (62·3 per cent. of the cases), his retirement (9·4), disability (5·7), absence (0·9), desertion (3·2), separation (2·4), or divorce (0·1), or the non-marriage of the head of the family (16·0). A statistical picture is given of the extent to which widows' pensions, separation allowance, workmen's compensation, old-age pensions, public assistance, unemployment benefit, payments by lodgers, sub-letting, health insurance, war pensions, and personal savings assist in sustaining these maimed groups.

Another chief discovery relates to the unemployed. A calculation has been made showing that of the total surplus of labour in Merseyside, 48,000 may be attributed to the world depression, and 26,010 to local factors peculiar to Merseyside—this latter part being the measure of the unemployment which would persist even though there were a general return throughout the country to conditions prevailing in 1929. This situation is grave enough. But the further discovery is made that there is to be an inflow into industry of new entrants from school, in excess of the number retiring through old age, of 76,000 during the five years following the date of the Survey. In other words, an area which is ranked among the most depressed in the country is menaced with a more than doubled surplus of labour in five years due to the flood of new workers leaving school. The authors of the report must have exercised great restraint in making no reference at this point to the school-leaving age.

Of the three volumes, the last will hold most interest for all whose approach to social science is through biology, education or administration, *i.e.* whose concern is with the treatment of the individual rather than the economic causes which underlie his condition. It is here that consideration is given to the influences for good or evil which affect infants, school-children, adolescents, families in various situations, pensioners and the aged, and sub-normal types such as the deaf and dumb, the blind, the mentally

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deficient, the physically defective and the destitute. The authors consider it to be no scientific weakness that the extreme case receives more attention than the normal, since through the examination of the abnormal light is more readily thrown on causes and probable cures.

To the economist the second volume is of chief interest. It contains an all-inclusive survey of the industries of Merseyside from the point of view of their present employment capacity and their prospects of recovery. The conclusions regarding the future are very tentative, but the authors appear to have left no stone unturned in their attempt to discover the possible grounds of revival. The key to the industrial situation in Merseyside is the total quantity of goods, *i.e.* imports and exports, which pass through the Mersey, for this determines directly or indirectly not only the amount of shipping and land transport needed, but also the extent of new construction, shipbuilding, repair work, warehousing and merchanting, together with the possible subsidiary activities of rope-making, sack and packing-case and wood manufacture, and hotel and passenger supply industries. But whereas it is the *total* quantity of both imports and exports which has the most direct effect upon local conditions, an important indirect influence is the *proportion* which exports bear to imports. Until 1930 exports were almost equal in value to imports, a fact which conferred the advantage upon shipping of being able to carry full cargoes on both the inward and the outward journeys. In 1931 exports fell to 44 per cent. of the whole; and losses were incurred through inadequate cargoes on the outward course. The inference from this is that whereas a tariff policy must injure Merseyside by checking both imports and, indirectly, exports, a low exchange policy will assist by stimulating exports and causing them again to balance imports. A calculation at the end of this volume shows that more than two-thirds of the employed population of Merseyside are engaged in industries which must be injured by a national policy of protection.

Certain sections of the Survey have been reprinted from previous publications, and it appears that in the new form the reader is given rather less assistance in making inferences, a fact which strengthens his belief in the scientific value and absence of bias of the work. The thought persists, however, that those who have undertaken this immense labour are the most fitted to form conclusions and that society would be still more in debt to them if in a subsequent work they would make known what is their considered view on remedies. J. R. BELLERBY

World Economic Survey. Third Year, 1933–34. League of Nations, 1934. (Allen and Unwin. Paper 6*s.*; cloth 7*s.* 6*d.*)

A REMARKABLY high standard of performance in a decidedly difficult enterprise has been achieved by the Economic Intelligence Service of the League of Nations in their annual World Economic Surveys. The present *Survey* (for 1933–34), prepared by Mr. J. B. Condliffe, is the third of the series. As a work of reference it is indispensable to any economist who desires to form a tolerably well-informed picture of the events of the depression throughout the world. Nowhere else are the essential facts and significant developments described so fully or arranged so conveniently as they are in this volume. But it is much more than a work of reference. Thanks to a happy tradition established in its early days, the Economic Organisation of the League has always known how to wear its officialdom with a difference; and this *Survey*, while maintaining all due discretion, and refraining carefully from any observation that could be regarded as a criticism of the policy of particular Governments, is not rendered jejune and colourless by the exclusion of all matter that might be deemed controversial. The attempt is made to appraise the significance of the different tendencies at work, to disentangle underlying causes from the more obvious factors near the surface, and to suggest tentatively some of the conclusions which appear to follow from the experience of recent years. The point of view from which the volume is written emerges fairly clearly. It is the point of view of one who regrets "the revolt against the related systems of democracy, *laissez-faire* and internationalism," and who is sceptical about modern experiments in State regulation and planning, regarding them as "likely to diminish the aggregate efficiency of the economic system." But though a trace of bias may be discernible here, it is no more than is required to make the *Survey* a readable and stimulating as well as a laudably objective volume.

The general picture which the *Survey* presents is that of what may be termed a natural tendency towards recovery throughout the world, complicated by the various reactions of the divergent policies of Governments in different countries. The former tendency is attributed to "the widely diffused efforts of individuals and of groups to adjust their particular activities to the new economic conditions," and the point is made that these efforts of individuals "are very important in the aggregate," though, being less spectacular than the acts of Governments, they do

not receive so much attention. Stress is laid in particular in this connection on the world-wide phenomenon of—

> "an extensive overhauling of private enterprise, involving much liquidation and reconstruction, adaptation of processes and improvement of management. Such efforts of private enterprise to reorganise more efficiently have been among the most powerful forces making for economic recovery in recent months."

But the operation of this tendency has been "confused by two important sets of forces derived from Governmental policy." The first of these relates to monetary policy. There is a striking contrast between the fortune of the countries whose exchanges have depreciated in recent years and that of those who still cling to their gold parities. Depreciation may have helped the former countries to recover, but at the expense of aggravating the difficulties of the latter. The second set of forces "consists of the various movements towards a greater degree of Government planning and control both of industry and of trade." Great Britain has relied "primarily upon a lowering of interest rates, accompanied by budgetary economy." In Germany, the United States and Japan, on the other hand, the Governments have sought actively to stimulate production by peculiar experimental policies of which interesting accounts are given in some detail. But though the policies pursued have been widely different in different countries, a common trend is discernible everywhere towards more ambitious schemes of State regulation.

This general movement towards Governmental regulation has been associated with a multiplication of restrictions upon international trade, and the *Survey* suggests that this association is inevitable. For "the regulation of national industry presupposes a measure of planned control over external trade, and all trade restrictions of this character naturally react upon national production." Accordingly, "the long-run tendency of nationally planned and regulated production is clearly towards less international differentiation and co-operation and the loss of those advantages which spring from territorial division of labour." It follows that the planning policies of Governments, like their exchange policies, are working to some extent against each other, and against world recovery. The *Survey* expresses the hope that economic recovery may lead to some mitigation of the new restrictions on international trade; but its hopes are not very large or very confident in view of the "changed régime, the altered

social and political environment in which economic life now functions."

This phrase occurs in an interesting chapter on "The Changing Economic Order." Attention is called to the decline that has taken place throughout a large part of the world in the growth of population, though a cautious view is expressed as to the early prospect of a reduction of numbers. Upon this point, the *Survey* appears to attach an exaggerated importance to the influence that might be exerted by a fall in infantile mortality rates; and though its immediate inference from this possibility, namely that "any actual decrease of population may be deferred much later than some forecasts portend" is not unreasonable, the further conclusion is surely unwarranted that "the populations of the industrialised countries of Western Europe appear to be stabilising." The *Survey* recognises that the cessation of the growth in numbers has an important bearing on the economic problem:—

> "A population which is approaching a stabilised maturity will develop economic demands very different from those of a rapidly expanding community. In particular, the consumption of elementary necessities will not greatly increase, though there will be a strong tendency towards extending their variety and improving their quality. New foods come into use, the range and quality of clothing are much improved and the standard of housing also is raised; but for the staple foods and the commoner articles of general consumption, demand lags behind the increase in wealth. On the other hand, there tends to be a rapidly widening demand for more costly goods of durable consumption and also for the personal services, and for the perishable consumption goods which often are connected with the new durable goods, such as motor-cars."

These changes, it is argued, have already made themselves evident in the period preceding the depression; and it is implied, though at this point the chain of reasoning is not very clearly developed, that, together with other factors, they have played a part in creating that change of environment which is promoting greater Governmental regulation and the insulation of national economies.

H. D. HENDERSON

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Codes, Cartels, National Planning: The Road to Economic Stability. By Dr. Bruno Burn. (McGraw-Hill Book Company, New York and London. 1934. Pp. 413. 24*s.*)

This book is an investigation of the American Recovery Programme in its industrial aspects, and especially with reference to the Codes, by one who has been engaged for twenty years in the field of Cartels and Trade Associations in Germany, and who finds the significance of the New Deal in its tendency to develop in the same direction in America. The author is a strong supporter of the Cartel model as an instrument of economic stabilisation, if it is accompanied by an adequate control over trade practices, such as the Codes include; but he thinks that, in order to prevent damaging reactions of one Cartelled industry upon another, the Codes must be integrated into a single scheme, subject to the final oversight of a national Code Council. Failing such integration we have the "planlose Planwirtschaft," of which much has been said by other writers.

In the course of this argument, Dr. Burn gives an interesting account, supplemented by specimen documents, of the way in which the Cartel model is now working in Germany. It appears from this that the Cartel, like the push-bicycle, attained its developed form nearly a generation ago, for there is little that is new in Dr. Burn's authoritative exposition. The refusal of America to allow the Cartel now appears as a mistake, which drove industry into less stabilising types, which created more trade practices than they eliminated.

Also incidental to the argument is a review of the system of free competition, its presuppositions, its relation to the pioneer stage of national evolution, and of course its defects. But in a later chapter he holds that such competition has "long ago (how long?) ceased to be a reality," and he presents a picture of industrial processes as a "balance of restraints." I think that the continuity of industrial change of system is never adequately recognised in these accounts of our old hack-block *laissez-faire*. It is better to speak of the stage of free enterprise, which adopted changing forms, than of that competition which has collected so many adjectives, Dr. Burn's favourite being "rugged." The reason why we cannot "go back" to the enterprise of even 1914 is the not obscure one that that was twenty years ago, and that time is irreversible. Dr. Burn rightly draws attention to the "vertical spiral" of industrial change. The question, now as always, is what we are to go forward to. How much enterprise,

how much regulation, how much socialisation, are called for by the whole general changes of technical, social and administrative knowledge—this has always been the problem of policy.

Much of Dr. Burn's argument is devoted to the question of adjustment. The system of free enterprise was not, in my view, correctly described as one which assumed "self-adjustment." It assumed multiple adjustment, quite a different thing. Dr. Burn is well aware of the problems that lurk in the idea of "adjusting the supply to the demand" by making price an instrument instead of an index. Such plans must substitute for multiple adjustment a very complete knowledge at the centre of a large number of variables, and a constant supervision and willingness to experiment both upwards and downwards, if there is to be any confidence that the planning body knows all that it is about. For this purpose Dr. Burn desires that the fully Cartellised system which he favours should include, as an essential part, the co-operation of the voluntary Trade Associations.

One cannot read this and similar studies of the New Deal without feeling that America is being credited with a Planning endeavour, when the fact is rather that, having failed to make plans in advance of the Depression, she has been caught without them, and has to make them in great haste. This very haste is the dramatic feature of her present activity, while Great Britain, which had prepared herself by Trade Boards and National Insurance years ago, is not credited with a New Deal, since in this country it is now an old one.

The plan of Dr. Burn is that the Codes shall be linked to Trade Associations in every trade, creating Code Associations. In order to meet the problem of inter-trade adjustments, these Code Associations are to be integrated for general supervision into Code Groups for each industry. Thus coal-mining would have a Code Association, and mining a Code Group. Over the Groups would be Code Federations for industry, banking, wholesaling, retailing, and so on. And over all the Code Council. This is a formal plan; but the interest of Dr. Burn's study is his discussion of the measures to be taken to maintain a real elasticity in the supervision, however far it goes, which is to be the substitute for multiple adjustment.

D. H. MACGREGOR

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Wirtschaftliche Konzentrationen, Konjunkturwandel und Krisen. By Dr. O. Brendl. (Berlin: Carl Heymann. Pp. 79.)

The principal interest which this book has to its readers is that it is an attempt to treat the same problems which have been dealt with in recent theoretical works on the influence of industrial combinations to social product and trade cycle. Brendl, on the other hand, is an exponent of the science of business management (*Betriebswirtschaftslehre*) and therefore is afforded a good opportunity of justifying the reproaches which his science has levelled against the theoretical economists for their abstractions and their preoccupation with assumptions and definitions. But unfortunately his different approach is not very helpful. His refusal to rely upon the accepted results of previous research leads him into a lot of useless discussion out of which conclusions and classifications emerge which could easily have been derived directly, *e.g.*, from *v. Beckerath's* classification of industrial concentration. His refusal to isolate by abstraction the tangled factors which influence his problems lead him into confusion rather than into reality; and this impression is aggravated by a disconnected style of writing. Moreover, his conceptions are by no means clear-cut; for instance, he fails to make the very important distinction between production costs and marketing costs. Thus, on his terminology, a joint advertising agreement between otherwise independent producers must be called a Trust, because both costs and prices are affected. There is also some thin ice in his argument about the cumulative effect of surplus gains (p. 22). There is clearly a duplication here; we may have a surplus gain, or a decrease in accounting costs, but not both, because the gain is absorbed in the reduction of cost.

The main thesis of the book is that those combinations are desirable which tend to bring down production cost, while those are not to be desired which increase gain by raising prices (pp. 59–60). This may sound reasonable to the practical business man, but as an argument in a *general* form is quite incorrect. Both a reduction in production cost, if obtained by cheapening of production factors, and an increase in prices constitute, prima facie, a transfer to the monopolist in the one case from the owner of the production factors, in the other case from the consumers, who may, of course, be the same persons. The author's treatment of the trade cycle is insufficient. He has dealt with the influence of industrial combinations on the individual phases of the trade cycle, but he has not gone to the root of the problem and investigated its influence on the initiating forces and the

necessary recurrence of the trade cycle. If this is to be the response to the "*Hic Rhodus, hic salta!*" of economic theory to its critics, then it is not a very spectacular jump.

H. W. SINGER

Seasonal Variations in Industry and Trade. By SIMON KUZNETS. (New York: National Bureau of Economic Research. 1933. $4.)

ASSEMBLING a great inventory of data, Dr. Kuznets sets out to answer two main questions: how is the pulsation of a seasonal flow connected with non-seasonal activities above or below it in the sequence of productive processes? and what changes in the patterns of seasonal variation have accompanied the changes, secular and cyclical, in the American economy since the War?

The problem raised by the first question would still be present in a "stationary economy," and here accordingly Dr. Kuznets seeks the one pattern that is most representative of conditions throughout the period. His method is to compute monthly relatives to a moving average, and then to compare the different indexes that can be formed by taking the mean of different numbers of central items in the array of relatives for each month; by this comparison he is led to select one such index as best representing the general movement, but he does not finally adopt it until he has compared its value for each month with the sequence of relatives computed for that month year by year. Such a method is admirably tentative: there is no tipping of data into the hopper of an algebraic machine; changes regular or irregular must be brought to the eye. The index thus obtained provides the main material for a study of four productive groups, selected as illustrating the incidence of seasonality at different points in the flow from raw material to consumption. This study is a great achievement in field-work, yet the inquiry is not pushed very far: the questions raised could indeed be fully answered only by special studies of the several industries; and the very width of the whole survey forbids more detailed treatment of one part. One might, however, wish that even within its necessary limits the work had here been more brought together—that there were tables, for example, to show how the ownership of stocks of crops changes month by month; that the seasonal movements of prices had not been treated apart from those of the corresponding quantities; or that the question of what decides who shall carry the stocks had not been left to suggestive but brief remarks in a later chapter.

Dr. Kuznets' study of the second question leads him to conclusions which are of importance to the student of cyclical fluctuations, and of which we must here give some indication, even at the cost of passing over the very interesting statistical methods by which they are reached. Broadly speaking, the evidence enables Dr. Kuznets to conclude that in the United States in the fourteen or fifteen years after the War the seasonal pattern in the processes nearest distribution has become more like that of demand: where demand is seasonal these processes have become more variable; where it is non-seasonal they have become steadier. In each case the immediate cause seems to have been the decision of distributors to buy from hand to mouth rather than carry stocks, and this decision in turn may be attributed to two factors: the loss brought by stock-carrying in times of falling prices, and the widening empire of fickle style and fashion. In each case again the burden has been thrown farther back; but where the effect has been to increase seasonal variation, this burden has taken the form not of greater stocks but of excess equipment, sufficient to the peak and too great for the average. The availability of this equipment is in part ascribed to the release of funds through the reduction of stock, but is also promoted by the advance of technical improvement, and by the low level of average output in a slump. From these suggestions it follows that trade depression tends to bring an increased seasonal burden. In considering the relation between seasonal and cyclical variations, Dr. Kuznets further points out that the stocks necessitated by seasonal flows may delay the passage of stimuli through the system, and so lead to an accumulation of tensions; that when the stimulus comes to be transmitted, those who supply stocked goods may experience the same magnification of variations as do those who supply fixed equipment; and finally that the influence of a cyclical stimulus will be modified by the seasonal phase in which it appears.

Dr. Kuznets' book contains much more than this notice has described; its tables of indexes and of sources give it the greatest usefulness in further research; one cannot read it without admiration for the completion of a great task of organisation, for a patient and cautious study of detail, and for an exposition always orderly and clear.

E. H. Phelps Brown

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Oxford.

Brynmawr: a Study of a Distressed Area, based on the results of the Social Survey carried out by the Brynmawr Community Study Council. By HILDA JENNINGS. (London: Allenson & Co., Ltd. 1934. Pp. xi + 246. 10*s.* 6*d.*)

IT is widely known that some five years ago the Society of Friends formed a small settlement in Brynmawr to give assistance in the prevailing distress in the South Wales coal-field. It is probably less well known that one of the first actions of that group was to encourage a stock-taking of the existing circumstances and resources of the community that it was setting out to help. The group which conducted this survey, though stiffened at one or two points by persons from outside Brynmawr, was almost entirely drawn from the inhabitants of the small town itself. The chairman of the Council for this whole study was an unemployed miner. A study of the health and housing of the town was made by a group which included among others a schoolmaster, a nurse and the local surveyor and sanitary inspector. Transport facilities were studied by the stationmaster, two garage proprietors, a postman, and an official of a bus company, with a miner as secretary of the group. The financial position of the town was examined by the branch-managers of two of the Banks, the postmaster, the manager of the Co-operative Stores, with the headmaster of the Boys' Council School as secretary. A study of the industrial history and possibilities of the place was made by a group which included among others a colliery manager, a retired boot manufacturer, the assistant manager of the Employment Exchange, four miners, and Miss Jennings herself. Each of these groups contained lay members other than those mentioned, and other similar groups studied other aspects of the general problem.

These various reports have been edited for publication by Miss Jennings. It is no disparagement of her editing to say that in many ways the original documents, overlapping as they inevitably must, and too long for publication as they stand, are even more interesting than the necessarily condensed and summarised version which she has been obliged to give us. For they represent a unique achievement in collective effort by a small community. Out of this material Miss Jennings has made a fascinating book, and the highest compliment that the reviewer can pay to it is to say that it led him to visit Brynmawr himself, and to compare on the spot the published version with the reports themselves.

Brynmawr is essentially a product of the industrial revolution. At the end of the eighteenth century it was no more than a bleak hill-top on the road from Merthyr to Abergavenny. But in the following years industry grew rapidly. The earliest products were iron-ore and limestone for the neighbouring iron-works at Nantyglo, Beaufort and Clydach. The local blackband ore was by contemporary English standards comparatively rich and for the first half of the nineteenth century the neighbourhood was prosperous and expanded rapidly. Coal began to be worked not only for the use of the iron-works but also for sale. Through the early railway age prosperity continued and increased, but by the middle of the century the richer local ores were becoming exhausted, the poorer remaining deposits could not compete with the far richer imported ores of Spain and Sweden and even of Northamptonshire. By 1865 imported ores were one-third of the local product. By 1878 they were four times, and in 1890 a hundred times the local product. The iron furnaces, in face of the competition of works farther down the valleys and at the coast, gradually collapsed and perished, and for the thirty years from 1850 the town steadily declined. Then the growing demand for coal both for consumption and for the neighbouring steel industries in the Ebbw Vale brought a renewed period of activity and further immigration of workers. The coal measures outcrop a few miles to the north of Brynmawr. The coal was close to the surface, and easily and cheaply worked. It was exploited by a number of small undertakings which took the best and left much behind, which worked with little system and kept few records for future generations of what they had done. By the end of the war a hundred years of exploitation had virtually exhausted the coal. All but a few of the local collieries were closed down in 1921 and never reopened after the great strike of that year.

From 1921 Brynmawr, with a population of about 8,000, has been a dormitory for men working in the neighbouring coal valleys. Already in that year 2,046 out of 3,230 persons were working outside the town. About half of these worked in the western valley of Monmouthshire and another 40 per cent. in Ebbw Vale. But with growing depression in these areas work has been concentrated on the local population, thereby securing the rents of colliery houses and the reduction of local rates. The Brynmawr residents have suffered increasingly and by 1929 only 563 found employment outside the town. At the end of that year 59 per cent. of all miners in the Employment Exchange area were unemployed, and 72 per cent. of those over forty years of age.

Thus even in the derelict area of the north end of the Welsh valleys Brynmawr was exceptional.

The Society of Friends decided, therefore, to concentrate their efforts in Brynmawr rather than diffuse them over the coal-field as a whole. Their success is not to be measured merely by the tangible results, remarkable as these have been. Their attempts to create new industries to take the place of the old have indicated difficulties which neither they nor others could have foreseen, and their experiences are a most useful guide to all who may be seeking to tackle this problem. Mr. Scott and his collaborators would be the first to admit that the establishment of new industries is a far more difficult task than they had originally imagined.

The statistical results of the inquiry cannot even be summarised adequately in a review. The materials collected by the Financial and Industrial Groups in particular afford valuable opportunities for further analysis. For this is almost the first study in this country of a small community treated as a unit. Such studies have provided the foundations on which almost the whole of Indian economics has been written. Similar inquiries are now being made in Africa. It is much to be hoped that the inspiration to make further studies in this country may be derived from this most interesting experiment in self-analysis. For much of the material collected at Brynmawr will gain its full significance only when we have similar data for a healthy town of similar size with which to compare it.

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The Shorter Working Week. By DR. H. M. VERNON. (London: Routledge & Sons. 1934. Pp. viii + 201. 8*s.* 6*d.*)

IT is now fifteen years since any substantial reduction in the hours of factory work has taken place. Meanwhile work has certainly intensified. There has been speeding up of machines and conveyors, speeding up by new methods of wage payment, such as the Bedaux system, and by stricter methods of supervision and record-keeping, and there is also a "loading up" taking place; for instance, more looms per weaver. Under these circumstances the time is ripe for a revision of working hours; and Dr. H. M. Vernon's book is to be welcomed as a detailed survey of one particular plan for shortening hours and maintaining wages, without necessarily increasing the cost of production. He writes "with special reference to the two-shift system."

The economic argument for working shifts was first brought before the general reader by Lord Leverhulme in his *Six-Hour Day*. It has recently been restated by a committee of the British Section of the International Association for Social Progress (of which Dr. Vernon was a member) in a short pamphlet entitled *New Aspects of the Problem of Hours of Work*, obtainable from the Secretary of the Section at 15 Sheffield Terrace, W.8. Dr. Vernon in the present book collects much further information, but does not go as deeply into the economics of shorter hours, and steers clear of any definite pronouncement upon their use as a check to unemployment. In his first chapter he confines himself to the facts of unemployment and the increasing productivity of labour as summarised in official statistics; his second chapter describes various manifestations of rationalisation; and his third chapter, surveying very usefully the types of weekly hours now worked, introduces us to the shift system. There is a brief reference here to the saving in overhead costs per unit of output when the plant is run longer hours, but the matter is not pursued. With the exception of a final chapter on the problem of leisure, the remainder of the book deals mainly with the observed results of women and young persons working upon the two-shift system, when this was granted by Home Office orders under the Act of 1920. The procedure adopted under this Act is described in Chapter IV; the result upon output, lost time and health in Chapters V and VI; and the resultant opinions of the workers, their managers, supervisors and parents—and their organisations—in Chapter VII.

Valuable evidence, collected by Dr. Vernon when investigator for the Industrial Fatigue Research Board, is given in detail about the sleeping and feeding habits of shift-workers. When the morning shifts began as early as 6 a.m., as they did in three of the factories investigated, the median hours of sleep obtained were as low as $6\frac{1}{2}$ or $6\frac{3}{4}$; but in a fourth factory beginning the morning shift at 6.30 a.m., $7\frac{1}{2}$ hours' sleep was obtained. Apparently there is a fixed time for going to bed regardless of the time one has to rise next morning. Breakfast as well as sleep will also suffer from too early a kick-off. Thirty-two per cent. of the workers in three factories starting at 6 a.m. had only tea or nothing at all; but all the workers in the factory starting at 6.30 a.m. took drink and food for their breakfast. Thus it matters vitally when the morning shift is timed to start. The possible working hours allowed by the Home Office might perhaps be changed with advantage from a range of 6 a.m. to 10 p.m. to one of 7 a.m. to 11 p.m.

Dr. Vernon's general conclusion is definitely in favour of the shift system. Hours are shorter yet output almost as high and there is little evidence of impaired health. What objections are raised Dr. Vernon considers to be the result of objections to *any* change; as soon as workers have become accustomed to working shifts they prefer not to change back again. Even those starting work at 6 a.m. can, in Dr. Vernon's view (p. 125), "gradually acquire the habit of eating a good meal if they persist in the effort." Dr. Vernon has rendered signal service to the shorter hours movement in showing that there is little or no social and medical disadvantage in the shift plan to set against its undoubted economic advantage where, as in most modern industry, fixed capital charges run high.

P. SARGANT FLORENCE

University of Birmingham.

Unemployment Funds: a Survey and Proposal. By HUGH H. WOLFENDEN. (Toronto: The Macmillan Company of Canada. 1934. Pp. xviii + 229.)

MR. WOLFENDEN is concerned not only with unemployment insurance, but with all types of funds for assisting the unemployed, including public relief, though this is only slightly touched upon. The other methods include Compensation, where, as with our own Workmen's Compensation Acts, the whole responsibility and cost fall upon the employer, of which there are some instances in U.S.A. and Canada, and the three types of Savings plans, Employer Reserves and Pooled Reserves, provided by individual firms and groups of employers respectively, and Employee Savings. Instances of these methods, in fact, come nearly all from America, the European schemes being mostly based on Insurance or on Insurance cum Relief. The savings schemes of all types often provide for joint contributions by employers and employed.

The book is arranged to deal with the different schemes by countries, with sub-grouping for various types of plan. Much information is given, which should be specially valuable in supplementing and bringing up to date Dr. Gibbons' work on Unemployment Insurance. There is, for instance, a useful treatment of the present position of schemes of the Ghent type. Most attention is paid to the American and Canadian Savings schemes, whereas the treatment of English and German insurance is comparatively slight. Partly this may be due to the already considerable literature dealing with these last, but mainly to the

author's doubts of the suitability of insurance for treating unemployment and his preference for the Employee Savings method. He specially stresses that this maintains the individual's responsibility by basing assistance on his individual savings. "The return receivable by any individual is always the precise equivalent of the total contributions, plus interest and after the deduction of expenses. . . . Each employee in such a fund possesses inalienable rights with respect to the contributions made by him or on his behalf."

In rejecting Insurance, the author relies chiefly on the difficulty of making reliable actuarial calculations even over periods of years, and in doing so seems to overstress the analogy with other types of insurance. He overlooks, too, the fact, emphasised particularly by Sir William Beveridge, that the fluctuating and uncertain incidence of unemployment makes collective rather than individual treatment essential to average out the good and the bad. Here the British distinction between insurable and uninsurable unemployment appears a far more effective method of meeting the difficulty. Indeed, British insurance has less to learn from these American projects in respect of general principles than in certain subsidiary matters. Thus, the longer waiting periods might well, as Professor Cannan has suggested, be considered with a view to conserving more of the available funds for long-period unemployment; and schemes for what is in effect a "dismissal wage," in compensation for displacement by technological improvement, may be compared with similar suggestions which were made by the late Lord Melchett.

The closing chapters work out the author's proposals for assisted savings. In theory, he seems greatly to over-emphasise the workmen's responsibility for unemployment, and correspondingly understresses that of employers, notably in respect of casual labour, and of the community as a whole, since unemployment is in part at least created by fluctuation in consumers' demand. In practice, he divides responsibility more equally. What we call insurable unemployment would be met jointly by employer and employee and uninsurable by the employee and the State, with Relief Funds in reserve for those not covered, or ceasing to be covered, by these means. Finally, he would prefer the workmen to bear half the cost, but is prepared to accept payment of an equal third share by each of the three parties.

N. B. Dearle

The Technique of Social Investigation. By C. LUTHER FRY. (New York and London: Harper and Brothers. 1934. Pp. xii + 315. $2.50 net.)

MR. LUTHER FRY keeps closely to the title of his book, concentrating upon the machinery of social investigation, and provides much useful information for the social research worker. He treats the subject in order throughout from the preliminary planning to the final writing of the report and application of the findings. A last chapter of a more general character deals with the scope of Social Research. One advantage of his method is that his book can readily be used for general study of research technique, or for reference regarding particular branches of the subject.

The treatment goes into considerable detail. At times, perhaps, elementary matters are treated a little fully, whilst in other cases, as with the reference to the coefficient of correlation in the chapter on Quantitative Analysis, the treatment seems to assume more technical knowledge than many research workers, beginners especially, are likely to possess. But mostly the presentation is clear and helpful.

The book is based largely on American practice, but also refers to research work in other countries. There is, for instance, an interesting short account of the Booth Survey. Specially valuable features are the many references to actual investigations, illustrating practically the points with which the author is dealing, and his very considerable bibliography of the subject.

Possibly Mr. Fry might have ranged rather more widely and included, for instance, more information on British Research. Thus a brief description of the methods described in the introduction to *Industrial Democracy* would have been well worth inclusion, and what is there called "watching in motion," that is the observation of social institutions in their day-to-day operations, seems to provide a technique more fruitful than the more formal type of experiment, which, as the author rightly emphasises, is difficult to apply in the social sciences.

Mr. Fry's work will probably be most useful for the planning of the large-scale type of research, combining statistical and field work; and individual research workers, beginners especially, should bear its prime purpose in mind. But there is much which is of general application. Besides points mentioned above, Mr. Fry emphasises various pitfalls which may arise during an investigation, as, for instance, in respect of the use of the

"working hypothesis," as being at once necessary and liable to cause bias; and the advice and guidance given upon a variety of subjects should prove of assistance to more than one type of investigator.

N. B. DEARLE

The Consequences of the War to Great Britain. By FRANCIS W. HIRST. (London: Humphrey Milford; Oxford University Press. 1934. Pp. xx + 311. 10*s*.)

THIS is the concluding volume of the British Series in the "Economic and Social History of the World War," published by the Carnegie Endowment for International Peace. It is in two parts, the first covering political, social, and moral consequences and the second financial and economic consequences, the former occupying rather less than one-half of the book. In the first part is embodied an historical review which will certainly arouse much opposition but is perhaps as impartial as could reasonably be expected from so strong a partisan as Mr. Hirst. We can agree, however, that the War destroyed the character of the old political parties. "Politics became less political. Financial, economic, and social questions forced themselves to the front." The apparent potency of State action during the War and the distress which followed contributed to the growth of socialism, while the horrors and stupidity of war and the interference with personal liberty have created a powerful sentiment in favour of world peace. Social and moral effects are difficult to value, but Mr. Hirst has collected a number of illustrative opinions varying from one, that "the younger generation are much more independent, and take much more their own line, without reference to the older generation," to this (which is Mr. Hirst's own), that "the post-war generation of young men . . . are on the whole less industrious and enterprising, less public-spirited, and less interested in politics." From the latter view one may register dissent.

The financial consequences of the War are approached through the Budgets of 1914 to 1933, to which five chapters are devoted. Mr. Hirst has to a considerable extent confessedly taken his material from *British War Budgets* by himself and Mr. J. E. Allen and *British Budgets* by Sir Bernard Mallet and Mr. C. O. George. Two chapters follow on "the growth of taxation and expenditure" and "the war debt of Great Britain." His criticism is now familiar; insufficient taxation in the early years of the War and "an orgy of extravagance" throughout. Extravagance, as we well remember, characterised individuals as well as govern-

ments and patriotism was forgotten in the intoxication of rising prices. It is, for instance, well known that manufacturers squandered profits or disbursed them in needlessly high wages rather than pay them over as Excess Profits Duty. "In view of Lord Kitchener's warning at the outset that the War might last as long as three years, the Ministry had no excuse for not enforcing economy by the simplest of all methods, *i.e.* by taxation." But Mr. Hirst keeps his severest censure for "the almost criminal extravagance of the Coalition Government in 1919 and 1920." Part of the blame is fixed on the Civil servants; notwithstanding the slump which began in 1920 "the bureaucrats, strongly entrenched in Whitehall, were difficult to move." Mr. Hirst seems here to forget what he very well knows, and what every Civil servant finds out, that the business of the Civil servant is to obey orders and not to tax or legislate. Of all the Chancellors of the Exchequer with whom he deals Mr. Churchill comes off worst, and Mr. McKenna and Lord Snowden are treated most gently. Mr. Hirst thinks a "capital levy might well have been imposed on the war fortunes" of 1919–20, but his continual insistence is on economy, sometimes without much regard to the advantages of wise expenditure. The discussion on British war debts again contains little that is new, but the comment on the settlement of the debt to America in 1923 is worth quoting: "It was a most unfortunate transaction and it is now obvious that Mr. Baldwin was in much too great a hurry. A general arrangement should have been made with the Allies, or a most favoured-nation clause should have been inserted in the British Debt Treaty. In any case there should have been an arrangement for payment in goods untaxed by the tariff, or, failing that, the gold payments should have been checked by an index-number." Memory of the contemporaneous comment in American and other financial journals recalls that that Treaty, now maligned, did much to restore British credit, and, in any case, Mr. Hirst's alternatives were impossible of realisation then as now.

It is unfortunate for Mr. Hirst that so much of his history, and not least his chapters on trade and unemployment, has been discussed in scores of books during the last ten years that there is little new to be said. One may note, however, his censure of the Government of the day for conceding to India the right to impose tariffs on British goods (attributing it to the influence of the Bombay and Bengal manufacturers), though its refusal, with the growing spirit of Indian nationalism, might have brought worse evils. Again, the foolish expenditure of many working-class

persons during the War is set forth, but the present reviewer recalls the improvement in the health and clothing of the children of South-east London, whose parents were for the first time earning decent wages, more vividly than the fur coats and pianos in working-class households.

As has been already said, Mr. Hirst cannot expect to avoid contradiction, or at least controversy, but his book is a useful compendium of facts about the events of the last twenty years.

HENRY W. MACROSTY

The Twilight of Parenthood. By ENID CHARLES, M.A., Ph.D. (Watts & Co. Pp. 223. 7*s.* 6*d.*)

DURING the years immediately after the war there was a lively interest in population problems. In retrospect it is clear that the discussion was not fruitless; some permanent gain was made. Our ideas about the economic and sociological implications of the population question were clarified; research into the related physiological problems was stimulated, and it became possible to discuss birth control otherwise than in specialist publications. Then interest began to wane. This is a pity, because nothing can be more certain than that the changes, now taking place in the population situation in the Western world, will have a profound influence upon every aspect of the society of the future and its problems. But there are signs that population is again going to attract attention, and the publication of this book is one of them.

As the title and other indications show, Dr. Charles has addressed her book to the general public. It covers a great deal of ground; it is packed with facts, and the argument is often very condensed. Her qualifications over the whole field are high; she is thoroughly acquainted both with the statistical and the biological data. But it so happens that she holds views which are not very widely accepted, and a fuller exposition of her reasons for them would have been welcome. The general reader may find himself in some difficulty, since the facts are unfamiliar and the whole treatment so condensed. There is also a certain danger that he may take as proven some of her conclusions, which, though always deserving close attention on account of her qualifications to be heard, are nevertheless very questionable.

The first chapter is concerned with the possibility of the increased production of food opened up by science. It is extraordinary how little these facts are appreciated; discussion about

the population carrying capacity of the world is conducted as though our powers remained what they were fifty years ago. To stress this point is to render good service. The second chapter summarises the simple and beautiful methods, recently elaborated by Kuczynski, for assessing the position of a population in relation to its reproduction rate. These methods have stood the test of criticism and should be widely known. Then follows a summary of the results of applying these methods, and the remarkable position of the Western world is exposed; some countries, including our own, are 25 per cent. below replacement rate. Very properly there comes next an examination of differential fertility, since the most hopeful method of gaining further insight into the fall of fertility is undoubtedly to discover where and for what reasons within any community it has fallen most. Dr. Charles draws the important conclusion that a study of differential fertility leads us to suppose that fertility will continue to fall for some time to come. For this view there is ample justification. Differential fertility also raises qualitative problems, and Dr. Charles follows up this trail for a while. But eugenic problems are hardly suitable for so summary a treatment, and in any case are not part of the main theme. The fact seems to be that Dr. Charles cannot avoid having a dig at the eugenists, whom she regards as in general opposed to her social and political views. But it might be held that she tends to concentrate attention as exclusively on evidence pointing in one direction as they do on evidence pointing in the other.

Returning to the main theme she discusses in two chapters, which are the most interesting and at the same time the most debatable in the book, the more immediate causes of the decline of fertility and then the more remote or sociological causes. The latter she finds deep in the conditions which of necessity characterise an "acquisitive society." The sociological discussion is full of novel and acute observations; probably few will agree with all her views, but the treatment is far above the ordinary level of discussion of these matters. The chapter devoted to the immediate causes of the decline is more important since, until we are fairly confident as to what they are, any discussion of the sociological problem is necessarily rather in the air. The opinion is widely held that birth control is the explanation or at least by far the most decisive factor. Dr. Charles raises several difficulties in the way of this view, and the piling up of these difficulties gives the impression that she would assign a comparatively unimportant place to contraception. On the other hand, there

are passages which suggest that, when all the factors are taken into account, birth control will be found to be the most important of them. Thus we are left in the dark about her final conclusions.

The matter is so important that the points which she stresses deserve mention. She says that " four features of the decline in fertility of civilised communities . . . have been emphasised by those who regard the spread of contraceptive knowledge as the principal explanation of it." She names differential fertility, the high Catholic birth-rate, the high fertility of rural populations, while the fourth is connected with economic conditions. There are, of course, others, and of the most important of them Dr. Charles is not unaware. She says in another connection that " it is beyond dispute that the fall in European fertility was accompanied by a greatly increased dissemination of contraceptive information and by a more widespread and rigorous use of all available methods." As to class differential fertility, her difficulty in accepting it as evidence is that " birth control propaganda . . . has been closely associated with radical and socialist propaganda among the skilled workers." But propaganda in favour of all kinds of things, education for instance, was conducted by middle-class enthusiasts among the working class, and we do not infer that the working class in consequence became more advanced in these directions on that account. To the argument from high Catholic fertility she raises several objections. She points to the decline of the birth-rate in Ireland. But in fact fertility has remained high in Ireland; the decline of the birth-rate is due to few and late marriages. Irish data are, in fact, a point on the other side. She says that States in the U.S.A. with the highest fertility have few or no Catholics, and that those with many Catholics have only a moderate fertility. But in that country there are huge differences between the fertility of town and country and of foreign and native born, and the above facts can be explained as reflections of these differences which override the effects due to different religious practices. Her difficulty about the low Jewish birth-rate seems to be due to a misapprehension of Jewish teaching. She says that " Jewish authorities agree in condemning unreservedly all contraceptive methods." This does not at all accord with the very authoritative summary of Jewish teaching given by Dr. Lauterbach.

In general the difficulties in the way of accepting the ordinary view are not very impressive. What alternative explanations are there? Dr. Charles mentions three: frequency of intercourse,

washing and social promotion. It is true that there is reason to believe that, as the frequency of intercourse diminishes, so the chance of conception declines. But it remains to prove that the frequency of intercourse has declined. It has been shown that soap in very dilute dilutions is a powerful spermacide. But it remains to prove that washing as now practised enables soap to exercise its spermacidal properties. As to social promotion, the argument is that, since members of small families can get better education and can afford to wait for jobs, the congenitally sterile are favoured, rise in the social scale and so bring about a concentration of infertility in the upper strata. A somewhat surprising argument, it may be observed in passing, in the mouth of anyone who is otherwise so strongly opposed to the view that under present conditions genetic differences arise between members of the social classes. But what do we know for certain about the social promotion of members of smaller families and about the inheritance of human fertility? And how far is size of family correlated with fertility? The alternative explanations do not seem to carry us very far. On the other hand, our knowledge of the physiology of reproduction is so rudimentary that there is full justification for stressing the possibility that there may be unrecognised factors at work which reduce fertility. The point is that the presence of such factors has not been definitely established. It is not very easy to understand why Dr. Charles should be so anxious to belittle the importance of contraception. She says that the failure of "acquisitive society" to perpetuate itself is its "ultimate condemnation." But the more that the failure is due to accidental factors and the less it is due to conscious striving to prevent conception, the weaker becomes the case for attributing any blame. If our society came to an end owing to the spread of the use of soap and the substitution of the other pleasures for those of sexual intercourse, its end would be in the nature of an accident; blame would not be in the picture and its fate would not be altogether ignoble.

That this review has been mostly concerned with debatable matters should not obscure the fact that this is an able and stimulating book. It is not a dull rehash of the problem, and it is not a mere work of popularisation. It deserves the close attention of all who are interested in population.

A. M. Carr-Saunders

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The House of Adam Smith. By Eli Ginzberg. (New York: Columbia University Press. 1934. 8vo. Pp. xii + 270.)

Mr. Ginzberg seems to be a young writer of considerable promise. Unfortunately, before reading the *Wealth of Nations* he seems to have imbibed the idea that it is (in the words of the dust-jacket of his book) "the Bible of modern capitalism," which in his vocabulary means the exploitation of wage-earners by profit-makers. Forgetful of the proverb, "The devil can quote Scripture," he was then surprised to find that the book, in fact, contains a very unflattering picture of "merchants and master manufacturers," and a very favourable one of wage-earners, especially country labourers. Flushed with excitement, he hastened to communicate his discovery to the world in the book now before us without first inquiring whether what was new to him was not already well known. If the "Conclusion of the Chapter" at the end of Book I of the *Wealth of Nations* and other familiar passages in that work were not sufficient, any doubt about Smith's sympathies must have been set at rest by the report of his Glasgow *Lectures*, which has been available ever since 1896, though booksellers often wrongly allege it is out of print. It would be too ridiculous to try to make a typical anti-socialist out of the man who thought it might be justly said that "the people who clothe the whole world are in rags themselves" in consequence of their pernicious habit of putting boys to work too soon, and who told his students that the merchant was better paid than his clerks, though his labour was less, and that his clerks had equal advantages over the artisan and the artisan over the labourer, so that "he who as it were bears the burden of society has the fewest advantages."

Part I of Mr. Ginzberg's book is regarded by him as an attempt "to reconstruct and interpret the *Wealth of Nations*," but it is singularly unsuccessful, because it jumbles the opinions of other persons along with Adam Smith's. Instead, for example, of Smith's extravagant panegyric on the education given to girls in his time, we are startled to find a violent attack on it. There is nothing in the text to warn the reader that he has been switched off on to the opinion of an anonymous pamphleteer, and the notes are not likely to help, as they are not at the foot of the page but huddled away at the end of the volume.

Part II, which according to plan should have shown how Smith's work was turned to base purposes by reactionaries, is very discursive, and at last loses sight of the question altogether

in long examinations of the opinions of President Hoover and Pope Pius XI, neither of whom are alleged to have claimed to be supporters of Adam Smith or even to have referred to him.

Mr. Ginzberg's chapter headings are pyrotechnical rather than informative, but much will be forgiven to a writer who possesses a liveliness of style which is sadly wanting in the bulk of contemporary economic literature.

EDWIN CANNAN

The State and Economic Life: Addresses and Reports given at the Sixth International Studies Conference. (Paris: The International Institute of Intellectual Co-operation; London: Allen and Unwin. 1934. Pp. viii + 422. 15*s*.)

The New Internationalism. By CLARK FOREMAN. (New York: W. W. Norton. 1934. Pp. x + 154. $1.75.)

INCREASING intervention by the State in industry and trade is a world-wide phenomenon; and it is not surprising that a change of economic policy so significant should have led to the holding of conferences and the writing of books to elucidate the principles and extent of the movement. The second of the International Studies Conferences to be devoted to the subject of "The State and Economic Life" was held in London in the summer of 1933. It was organised by the International Institute of Intellectual Co-operation in collaboration with the British Co-ordinating Committee for International Studies; and this volume contains reports and memoranda, and verbatim notes of the discussions at the Conference.

The subjects considered fall into two main groups: (1) International Trade and Finance, *i.e.* tariffs and the regulation of international capital movements; and (2) State Intervention in Private Economic Enterprise, which includes a variety of subjects, amongst them State planning. The excerpts from the preliminary memoranda, and a few of the speeches, contain most useful information; but it seems doubtful whether a conference of this character is worth the time and money spent on it. If, instead of ranging over the whole vast field of the relations of the State to economic life, the conference had concentrated on one particular subject or problem, some definite and useful conclusions might have been agreed.

Internationalism, according to Dr. Foreman, "is a system of political, economic and cultural co-operation by the nations of the world." The Mercantile system gave way before the rise of "capitalist internationalism" based on *laissez-faire*, the ideal of

which was universal free trade. Socialist internationalism was an opposition theory. It began with Karl Marx, and was developed into a theory of the solidarity of the interests of all workers, regardless of their dwelling-place or nationality. But the elimination of national units which both of these systems envisaged shows no sign of realisation. Nationalism has been growing, quite as much in its economic as in its political aspects. During the past ten years the tendency has been towards a planned national economy and increased participation of the State in the economic affairs of the nation in nearly all countries; and in international relations this has resulted in State regulation amounting, in many countries besides Russia, practically to State trading. When they develop national consciousness the people of a country want a balanced economy: they aim at self-sufficiency in war and prosperity in peace. "The world has paid a heavy price for the attempts to expand commerce without regard to the effect on the human populations. The new internationalism will have to make allowance for national aspirations, but also there will be the same need as before of large areas for commerce." Those countries which achieve national development and a trade area sufficiently large to make them self-sufficient in war and prosperous in peace will be the leaders in the new international system. This thesis is worked out with a wealth of examples from recent world history.

H. S. JEVONS

The World Trend Toward Nationalism. Edited by ERNEST M. PATTERSON. (The American Academy of Political and Social Science: Philadelphia, 1934. Pp. x + 222. $2.50.)

The Economics of Rearmament. By PAUL EINZIG. (London: Kegan Paul. 1934. Pp. ix + 179. 6*s*.)

THE first is a number of the Annals of the American Academy of Political and Social Science (for July 1934), which contains papers read at the thirty-eighth annual meeting of the Academy, with discussions, and a few articles on the general topic of nationalism, followed by a series of papers submitted by the Academy of World Economics at Washington. It forms a volume bound in cloth and specially indexed. The 24 papers and articles are grouped under such headings as: American Foreign Loans and the Future, The United States and Nationalism, Can Wars be Avoided? There are several noteworthy papers, and some of permanent value. For instance, Albert Guérard writes on "Herder's Spiritual Heritage"—that is, nationalism, romanticism and democracy as they developed after the French Revolution,

and Sir George Paish on "Is Nationalism opposed to Internationalism?" Other well-known authors are: W. S. Culbertson and Henry Chalmers on trade barriers, Ramon Gorski on the Polish Corridor (with suggestions for a solution), and Clarence Martin on "The U.S. and the World Court." The book is full of useful matter on current international problems in Europe, America and the Far East.

The Economics of Rearmament is a striking little book: a sincere and original study of a difficult question. Although for sentimental reasons the author would have preferred, as he says, to present as strong a case as possible for disarmament, he found himself compelled to realise that, from the economic point of view, there is no clear case for either disarmament or rearmament. Those who claim that rearmament will cause financial and economic collapse are about as wrong as those who urge that it would be a general benefit because the expenditure would create employment. The author concludes that in a competitive regime dominated by *laissez-faire* mankind could not immediately benefit economically by a reduction of expenditure on armaments. Any expenditure on production, even of useless objects, which does not replace existing production is advantageous in that it creates employment; though it is doubly so if the product is permanently useful either as an instrument or public work. Only by resort to economic planning can a nation reap full advantage from disarmament. It is the existing system of the distribution of wealth which renders the foregoing conclusions inevitable. In a completely planned economy, such as Soviet Russia is endeavouring to establish, all armament expenditure would be a dead loss, because the manufacture of arms would always replace other activities. Such is the main argument of this thoughtful and readable book, which also has some interesting observations about the unbalancing of budgets.

H. S. Jevons

The Italian Corporative State. By Fausto Pitigliani. (London: P. S. King. 1933. Pp. xxv + 293. 15*s.*)

Fascism and Social Revolution. By R. Palme Dutt. (London: Martin Lawrence, Ltd. 1934. Pp. xi + 296. 5*s.*)

The Roots of Violence, being the Mertens Lecture, 1934. By S. K. Ratcliffe. (London: The Hogarth Press. 1934. Pp. 60. 1*s.*)

These three books have little in common except that they treat of Fascism from different points of view. Signor Pitigliani

gives us a useful account of the constitutional changes which have been made in Italy under the Fascist regime. He begins with an historical description of the growth of various types of occupational associations, and explains why it is to the advantage of the State not merely to grant legal status to trade unions and employers' associations, but to charge them with specific duties and obligations to the body politic in return for legal protection. The character of collective contracts and the working of labour courts in Italy are examined in detail, and two chapters are devoted to a full exposition of the corporative organisation of the Italian State.

The second part of the book describes the present occupational associations, reviewing their history, constitution and working. These cover the whole field of agriculture, industry, transport and finance, for both employers and employed, and the professions. Some English readers may be puzzled by the fact that the translator has frequently used the terms "syndicate" and "syndicalism" for "trade union" and "trade unionism," the term "revolutionary syndicalism" being used for the doctrine commonly denoted in England by the latter word only. The book is a detailed exposition and justification of the Italian corporative state, fully documented, but with no independent criticism. There is a long mathematical appendix on the economic basis of wage arbitration, based on Marshall, Edgeworth and Pareto; but there is no reference to Pigou.

Mr. Palme Dutt has written a most elaborate attack on Fascism, vitiated by his inability to see any good in it. There is a great deal of truth in many of his generalisations; and his numerous quotations, and his discussions of them, are full of interest. A careful unprejudiced student might draw much useful material for his own studies from the book; but as it stands it is of small importance on account of the obvious bias of the author.

Mr. Ratcliffe's lecture is a nicely phrased indictment of the coercive State, whether it be Italy or Germany, and an explanation of this political phenomenon based upon his wide reading. Fascism, it seems, is neither so new nor so un-English as we are apt to assume. Thomas Carlyle, who is revered more in Germany than in England, writing his *Latter-Day Pamphlets* in 1850, outlined the whole system of Fascism: a prime minister who would be actual ruler and demand a wise obedience to a wise command, with a regimenting of "pauper banditti" into soldiers of industry. Without telling us what to do, Mr. Ratcliffe has given us a very pleasant and profitable evening's reading. H. S. JEVONS

Railways and Roads in Pioneer Development Overseas. By J. EDWIN HOLMSTROM. (London: P. S. King and Son, Ltd. 1934. Pp. 304. 15*s*.)

UNTIL recent years, railways were the only practicable means of providing the essential transport services required for the opening up of hitherto undeveloped regions, but now an alternative method in the form of motor transport is available. All over the world, motor transport has developed to a remarkable extent owing largely to the fact that a motor service can be provided with a small amount of capital within the reach even of small native business men in Africa and Asia. Dr. Holmstrom points out that while nowadays motor transport grows up almost naturally to meet the demand, railways require to be deliberately planned. It is indeed a remarkable fact that motor transport has already become almost an integral part of somewhat primitive native economies in many areas. As Dr. Holmstrom remarks, " When one comes across the palm-thatched shelter between his grove of cocoanuts and his patch of rice, under which the prosperous Malay keeps his ramshackle old car wherewith to drive barefooted into market with his produce, one is struck with the intimate way that motor transport weaves itself into the accepted social fabric of the age as much in the East as in the West."

In undeveloped countries, the economic possibilities of motor transport are now so considerable that it has become an important problem to determine the correct relative sphere of rail and road (or roadless) transport in such regions. Motor transport is very flexible; the railway is rigid. Motor transport requires only a small amount of capital and its roadway can be gradually improved as traffic warrants, beginning if necessary as a simple track across country; a railway from the outset requires the expenditure of a vast amount of capital which once sunk in providing the permanent way and works is practically useless for any other purpose.

Dr. Holmstrom in this book has made an important contribution to the solution of the problem, basing his conclusions on a large mass of data relating to the costs of both road and rail transport in various African, Asiatic and other countries. Special interest attaches to his conclusions, since he is a practical engineer with experience of railway construction in Malay and China. The book provides a detailed and painstaking survey based mainly on the published reports of the operators concerned. The matter is treated in an original way and the author, with the aid of simple

mathematical formulæ and hyperbolic costing paper, elaborates a technique for estimating from local conditions the proper relative scope of railway and road transport in countries as yet economically undeveloped.

The book is divided into four parts In Part I the nature of different forms of land transport is analysed, and it is argued that the solution of the problem requires the distinguishing, measurement and correlation of consumer's costs, carrier's costs and virtual costs; the last named being a statistical estimate of the total wealth absorbed in providing transportation and in conferring any indirect benefits which may result. In Parts II and III, which deal respectively with rail and road transport in a number of undeveloped countries, the author develops a technique for deriving the kind of cost data required for his purpose from the published accounts and reports of the various undertakings. In Part IV the necessary adjustments of the crude data are made and various comparisons and conclusions are drawn, taking into account indirect benefits as well as measurable costs.

The most interesting contribution made by Dr. Holmstrom is the elaboration of a formula for obtaining the virtual cost per ton-mile of a "typical" colonial railway expressed in terms of the traffic density in equivalent ton-miles per route-mile per annum. The cost of providing and using the "typical railway" he estimates in round figures at £700 per mile per annum plus ½*d.* per ton carried. The virtual cost per ton-mile on a road is estimated at 9·50*d.* at all densities where comparison arises with railways, and from this he calculates that the critical density at which the virtual cost on a typical railway drops below the virtual cost on a road is 16,900 equivalent ton-miles per route-mile per annum. The figure thus obtained has to be modified by taking into account other factors than mere transport, such as terminal and handling charges or indirect benefits. Such modification, he points out, can only be effected by personal judgment locally informed, but it is in the public interest desirable that all transportation should be performed by whatever means incur the lowest virtual costs thus weighted.

Dr. Holmstrom is to be congratulated for his timely and important contribution to the study of problems of road and rail transport and his book should be read by all interested in these questions.

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Land Problems of India. By RADHAKAMAL MUKERJEE, Professor of Economics and Sociology, Lucknow University. (London: Longmans. 1933. Pp. x + 369.)

LAND tenure is probably more complicated in India than in any country in the world. Customs governing the occupation of land vary from district to district; and each province has its own considerable body of land legislation differing, in some cases fundamentally, from other provinces. Primitive tribal customs, literally thousands of years old, have survived in some parts. Each successive wave of conquerors from the north-west introduced new customs in the parts where the invaders settled in numbers. Four hundred years ago came the organised land system of the Mughal Empire, which the British inherited. This became overlaid with laws which in the nineteenth century embodied the crude application of English ideas, but more recently have been based on the ascertained needs of the situation. The author gives a good idea of this complexity, and indicates the probable origins of many indigenous systems of tenure. The present book is not primarily a description of Indian land tenures, for that task was accomplished by Baden Powell in his standard work of three volumes, whilst the British law has been set forth in legal works.

Professor Mukerjee is concerned with the effects of the laws and customs of the land tenure upon the efficiency of agriculture and the welfare of the peasants. The existing systems of tenancy, and the abuses which have grown up under them, are described in order to explain the reasons for the reforms which have been attempted and those which the author advocates. These are of great range and complexity; but everyone who studies the rural economy of India agrees that sweeping reforms are necessary to improve the economic position of the peasant, though opinions differ as to how they should be carried out.

The most serious evils, which are correctly described by the author, are: the growth of landlordism and rack-renting, even in the provinces where the law recognises only peasant proprietorship; sub-infeudation, the land being let and sublet to five or six successive subtenants, only the last being the actual cultivator; the extreme subdivision of holdings, so that a family has to live on less than an acre of rice land, and individual fields are often no larger than a tennis-court; the scattered nature of the usual holding with fields in ten to twenty places; the levying of premia and "fines" by landlords where rents are fixed by law; the pressure of land revenue on the small cultivator in some parts;

and the usurious rates of interest charged by money-lenders, and failure of the land alienation acts wholly to protect cultivators from loss of their land.

The author considers at some length the problem of enlarging the multitude of uneconomic holdings, and of consolidating the holdings which consist almost universally of scattered fields. He is in favour of compulsory pooling and re-division of the land in compact holdings, and re-adjustment of village roads and paths, and easements, such as irrigation channels. There have been various measures to protect tenants by conferring occupancy rights and automatically acquired tenancies for life. Yet there is a host of tenants-at-will, and of protected tenants, having holdings too small to maintain a family. These classes might be provided for to a large extent, the author suggests, by Government purchase of the large *zamindaris*, or landlords' estates, and sale to the peasants by gradual instalments on the Irish plan, after laying out the land to the maximum advantage. The permanent settlement is reviewed, and its baneful results are indicated. The proportion which land revenue bears to rent and to the cultivator's surplus is examined; but, since most of his proposals are sound, it is surprising to find the author proposing that the land revenue should be reduced for cultivators with very small holdings on the principle of ability to pay. This confuses a tax which takes a share of the economic rent with an income tax. Any such basis of assessment would be likely to prove extremely difficult from the administrative point of view.

In several places the author's inferences from the experience of other countries seem to need reconsideration; but the book forms a useful and suggestive review of the agrarian problems of India and of possible methods of alleviation. Numerous vernacular words are used for different tenures, tenure-holders and customs without any translation or explanation, the book having been written for those already conversant with the main features of Indian rural economy.

H. S. JEVONS

NOTES AND MEMORANDA

THE ECONOMIC ASPECTS OF THE PROPOSED INDIAN CONSTITUTION

§ 1. THE Report of the Joint Committee on Indian Constitutional Reform may now be regarded as the final outcome of the political deliberations which have for nearly a decade busily engaged the statesmen of two countries and which have produced one Statutory Commission, three Round Table Conferences and several Committees and sub-Committees. In view of the strength of His Majesty's Government in Parliament, the Constitution, as outlined in the White Paper (Cmd. 4268) and as retouched in the Joint Report, may be said to be a *fait accompli*. At the moment both in India and Britain attention has centred round the Safeguards, commercial and other, which in one country are looked upon as unnecessary fetters on freedom and in the other as a "necessary complement to any form of responsible government" and transfer of power. It is for the politicians to ferret out these questions of transfer of power; the task of the economist is to consider dispassionately whether the new Scheme is capable of bringing about any real advance in the economic well-being of the masses, of raising their standards of life and culture and of providing them with the material and moral equipment necessary to maintain those standards.

Applying that crucial test we have to admit that although the Report provides a very successful solution of the problem of constitution-making in the shape of a concrete Federal scheme, and although it very ably brings into focus the work of previous Committees and sub-Committees, it fails to realise as fully the economic needs of the country. It may at once be said that the economic aspects of the Report are less satisfactory than its political aspects and that India's economic freedom, whether in the financial, fiscal, industrial or monetary sphere, is hedged in with limitations, which may indeed have been necessitated by reckless intimidation on the one side, but which are equally the outcome of distrust and niggardliness on the other. We are assured by the Joint Committee that the Safeguards they contemplate have "nothing in common with those paper declarations which have sometimes been inserted in constitutional documents,"

but constitute a substantial retention of power. In the circumstances, it is only to be hoped that this all-powerful "Special Responsibility" will be brought into play as sparingly as possible and on especial occasions and that such occasions will be few. So far as the commercial safeguards and their offshoot, the recent Trade Agreement, are concerned, one cannot help fearing that the influence of one declining industry is now blocking the way of a real commercial partnership between the two countries, which, if it were aimed at, should undoubtedly confer benefits on both the modern type of industry in Britain and on the agriculture and the less advanced type of industries in India. The new commercial philosophy, which all the world over has converted fiscal policy from a matter of principle into a market-day haggle, has now unfortunately taken hold of India as well. From a régime of discriminating protection, which was long ago officially affirmed to be the ideal system for India in view of her economic potentialities, India has been gradually led into a policy of indiscriminate preference and of reciprocity in which there is no full freedom to contract.

§ 2. It is, however, in the handling of the twin instruments of public finance and monetary policy that a true criterion may be obtained of the success or failure of the Joint Committee's proposals. To take the problem of Federal finance [1] first, this has been one of the most intricate affairs in the Scheme. The more important issues involved are: (1) distribution of powers and resources between the Federal Government and the Units; (2) extra expenditure caused by the Constitution *per se* and the subventions to be granted to Sind and Orissa, on their being constituted as separate Provinces, and to the backward Provinces, together with the financial effects of the separation of Burma; and (3) the financial relations between the States and the Federal Government and the reconciliation of the treaty rights of the States with the economic unity of the Federation. These questions will be briefly touched upon here.

In regard to distribution of powers and resources, Sir W. Layton wrote (Simon Report, vol. ii, p. 210): "Whereas nearly all the functions, which will require large expenditure in the future, fall in the Provincial sphere, the revenues assigned to them show a

[1] The subject-matter for this is scattered in various documents. Cf. Sir Walter Layton's *Financial Memorandum* in the *Report of the Simon Commission*, 1930; *Reports of the Federal Finance (Percy) Committee* and the *Indian States Enquiry (Davidson) Committee*, 1932–33; *Reports of the Facts-finding Committees of the Government of India*, 1930; *Report of the Sind Financial Enquiry Committee*; and the *Howard-Nixon Memorandum* on Burma, 1931.

quite inadequate increase, while the Central Government, whose expenditure should be stationary or falling, has assigned to it the only revenues which in recent years have shown expansion." If this is true of the present system, it will be still more true of the Scheme now proposed. Almost all the nation-building departments have been assigned (and quite rightly too) to the Units, while the sources of revenue assigned to them are both unsubstantial as well as inelastic. This is bound to result, as it has done in other Federations, in a perpetual scramble for Federal "doles" and in a strain being put on financial relations themselves. The Percy Committee had proposed that the whole of the super-tax and the taxes on personal income should be handed over to the Provinces, subject to temporary contributions to the Federal exchequer. The White Paper recommended that a certain percentage of the income tax (not less than 50 per cent., nor more than 75 per cent.) should be transferred to the Provinces, subject to a temporary arrangement in which part of this percentage should be retained by the Federal Government. The Joint Committee recognise the importance of leaving larger and more elastic resources with the Provinces (p. 161); but they make clear the inevitable consequences of the present system when they remark (p. 164) that "for some time to come the Centre is unlikely to be able to do much more than find the funds necessary for the deficit Provinces, and that an early distribution of any substantial part of the taxes on income is improbable." This inability apparently proceeds from the fact that nearly 60 per cent. of the Central revenues (Rs. 462 m.) is and will be absorbed in military expenditure and this must at all events be "safeguarded." Sir Walter Layton has investigated this question in his *Memorandum* (pp. 216–18) in the Simon Report. He comes to the conclusion that viewed from whatever angle and using whatever mode of comparison the "defence ratio" in the budget appears to be unjustifiably high. No effort has been made so far by anyone to refute that view; and yet this huge leviathan of military finance continues to dominate the budgetary position of a poor country. Expenditure on defence, along with some other fixed charges, covering about 80 per cent. of the Federal budget, is to be non-votable, and yet the Committee finds it possible to remark (p. 22) that "The existence of a large standing charge for Defence circumscribes but by no means destroys the financial responsibility of ministers."

The specific cost of establishment of the Federation is estimated at Rs. 15 m.; the creation of new Provinces such as Sind and

Orissa will entail subventions of about Rs. 9 m.; relief to deficit and backward Provinces like Assam and the N.W.F. Province will account for Rs. 20 m. or more; the transfer of the export duty on jute to the jute-producing Provinces will involve about Rs. 20 m.; and settlements with the States will cause a further burden of nearly Rs. 10 m. Leaving aside the financial effects of the separation of Burma, which, according to calculations made by the Standing Finance Committee of the Indian Legislative Assembly, would mean an annual loss to the Federal Government of Rs. 30 m., all these elements would involve a total expenditure of Rs. 70 m. to the Federal Government. Although the net cost of federation is not prohibitive, still this is too heavy a burden to saddle the Federal Government with. The Federal Minister of Finance will be in an unenviable position indeed with a 20 per cent. budget on the revenue side under his control and a growing burden of "doles" on the other. Both the Percy Committee and the Joint Committee have found a *deus ex machinâ* in a future economic recovery in India; and yet, it may be asked, what steps has the Government taken to bring this about in India? It is often pointed out, with some complacency, that India's credit stands high in the world's money markets, that India is one of the few happy lands where budgets are customarily balanced. But can it be said that this represents the true state of affairs in India? There are two ways of balancing budgets, and in a country where social services have never occupied any important place in the budget, it is always possible to satisfy all the canons of "sound finance" by drastic retrenchment. The real position becomes apparent when we inquire into the state of unemployment and indebtedness in India, which have both become problems of menacing dimensions entailing untold misery to the masses. The real solution of the financial problem may, perhaps, be found, therefore, in an expansionist monetary policy and not in any tinkering at the budget items.[1]

§ 3. The position of the Indian States as Units of Federation will be in many respects unique. These semi-autonomous, monarchical bodies, enjoying varying privileges and various degrees of internal sovereignty, based upon treaties and *sanads*, are rapidly becoming an anachronism in the midst of a growing movement for democratic self-government. At the moment the Princes are

[1] Another possible line would be to make the system of taxation as a whole less regressive than it is at present and tax the higher strata of incomes more progressively. There is reason to believe that with the advent of the corporate organisation in India there has appeared a tendency towards greater concentration of wealth, although essentially inequality is not yet a rampant evil.

sitting on the fence and would not like to commit themselves until "the picture is complete." But it is clear that they stand to gain all along the line in their bargain with British India. The Joint Committee have, in the main, endorsed the proposals of the Davidson Committee, which may be briefly recapitulated. The States at present enjoy by their treaty rights certain financial immunities and benefits; on the other hand, they make certain direct and indirect contributions to the Centre. Now the States are not a collective body, but comprise numerous and diverse political entities and, moreover, some of them make contributions which are greater in value than the privileges they enjoy, while others are in the opposite situation. In other words, some are "credit" States and others are "debit" States. The Davidson Committee rightly maintain that individual settlement will have to be made with each State on its entry into the Federation, and recommend as a matter of principle, lest the "debit" States should never enter at all, that the "debit" States should not have to pay anything to the Centre, while the "credit" States should receive annual payments equivalent to their "credits." This ingenious system would, however, involve a net expenditure of about Rs. 10 m. per annum to the Federal Government. Thus it will be seen the States will have it both ways. In spite of this, however, there is no suggestion on the part of the States of any surrender of privileges. The customs rights which some of them enjoy are already creating financial difficulties for the Government of India, and will undoubtedly constitute a serious deduction from the sovereignty of the Federal Government for which there is no parallel in any other Federation. Attempts were made in 1927, prior to the reimposition of the Viramgam Line, to buy up certain of these rights with liberal compensation, but such proposals were regarded by the States concerned as "an encroachment on sovereign rights." The Davidson Committee were convinced (*Report*, p. 129) that "no port-owning State is likely to surrender its customs rights even in return for full compensation." The Joint Committee have held out the threat of exclusion from Federation for such a recalcitrant State. Although this does not solve the basic difficulty it may be the only possible course left open.

§ 4. As regards monetary and banking policy, the Reserve Bank of India has already been constituted and is expected to begin its operations from July.[1] This was one of the conditions precedent

[1] For a description of the Reserve Bank Scheme see Professor Shirras's article in the ECONOMIC JOURNAL, June 1934.

to Federation, and it must be said to the credit of the Government that in the fulfilment of that condition one more engine for the economic unification of India has been created which must in the end prove a bond of strength to the country. The constitution of the Bank is, on the whole, satisfactory and workable. In fact, this appears to have little to do with the question of control. The main objectionable feature of the scheme is the strait-jacket of a predetermined monetary policy within which the Bank will have to confine itself. That the sterling standard conferred certain benefits upon India when the "monetary horizon" was foggy in 1931 may be conceded, but now conditions have sufficiently clarified to warrant a revision of policy, and in any case, even granting for argument's sake that exchange stability is a proper monetary ideal for India, the unnaturally high ratio of 1*s.* 6*d.*, at which the exchange has been kept pegged since 1927 and which has caused a disastrous price-fall to be superimposed upon the fall in Indian prices already caused by the Depression, undoubtedly needs reconsideration. That the ratio is unnatural can be easily proved by comparison of movements of wholesale prices in India with those in other Sterling-area countries since 1927. In the circumstances, the imposition of a preconceived policy upon the Reserve Bank and the attempt (cf. Joint Committee Report, p. 229) to perpetuate it by rendering amendment of the Act, in this respect, difficult—both without any precedent in the history of Central Banking—are to be deplored.

§ 5. Brief reference may here be made to two other important topics which are covered by the recommendations of the Report, viz. Labour and Railways. Labour reform is to be largely a field for concurrent legislation, so that the Federal Government should be in a position to co-ordinate, guide and encourage provincial effort, provided that the Federal Government could ratify International Conventions without consulting the Units, except in regard to Labour subjects falling within the latter's sphere. However, in view of the fact that Labour is not adequately represented in the Federal Legislature, while the vested interests of the Princes and capitalists will be in an overwhelming majority, progressive Labour legislation at the Centre seems difficult if not impossible. There is indeed more scope in the Units for this, but owing to industrial competition among them, and in so far as social measures would cost money, they must be reluctant to go far enough. These facts, coupled with the weakness of Trade Unionism and the illiteracy, poverty and indebtedness of the workmen, make the future of social legislation less hopeful than its past. As regards

the railways, the Joint Committee endorse the *Sketch Proposals* of the London Committee of 1933, whose main features are, the institution of an independent Statutory Authority for operating the railways vested in the Crown as well as for controlling some of the company-owned lines, " upon strict business principles and without being subject to political interference "; the presentation of the railway budget in the Legislature merely for debate and not for vote, except to the extent that a contribution from the general revenues is required; the fixation of maxima and minima for rates by the Authority, complaints being referred to an Advisory Committee appointed by the Federal Government. There is no suggestion in the Scheme, however, of a uniform system of management of railways, and although the general control over policy is vested in the Federal Government and Legislature, it is doubtful how far the actual administration of railways will conform to this.

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OFFICIAL PAPERS

Reports of Investigations into the Industrial Conditions in Certain Depressed Areas. Cmd. 4728. (London: H.M. Stationery Office, 1934. Pp. 240. 3*s.* 6*d.*)

THE Reports of the four special investigators who were appointed in April of last year to examine the conditions in the four " special areas " will inevitably be read in close conjunction with the original articles in *The Times* which did so much to inspire their appointment, and with the Industrial Surveys which covered much of the same ground three years earlier. *The Times* articles attempted to distinguish between the problem of the areas which were suffering from the effects of depression, but which were likely as trade recovered to find a renewed demand for their products, and the problem of those areas which had become " derelict," whose means of livelihood had been exhausted or destroyed, so that no recovery of trade could restore their prosperity.

This useful logical distinction has proved in practice impossible of statistical application. All the investigators attempted to define the derelict regions in their area; all for a variety of reasons abandoned the attempt. Few places are dependent exclusively on a single industry, and Mr. Davidson, the investigator of Cumberland, has hesitated to pronounce towns as derelict where other industries

have provided some small measure of employment. Moreover, in a number of cases in Scotland and South Wales derelict villages have become dormitories from which workers travel daily to work in the newer mines or in other industries. In this case the extent of dereliction [1] depends more on the local demand for labour than on the physical facts of the exhaustion of minerals. The problem is further complicated where the abandonment of the minerals is due rather to economic than to physical reasons. The coal or other mineral remains, and with a sufficient rise of price might again be worked. There is a similar difficulty in the case of manufactures. One important source of dereliction is the movement of iron and steel manufacture from towns based on economics of the raw materials which existed in the middle of the last century to newer centres better placed to make use of the economics of to-day. The movements from the northern end of the Welsh valleys to the seacoast, and from the smaller Cumbrian centres to Millom and Workington are almost certainly of this kind. But this movement has been in part only a general migration of the industry ; it has been in part also a concentration of a limited production in the most economical plants of large companies dominating a whole area, and it is by no means certain that with a substantial recovery of demand output will not again be required from the derelict towns. In some cases the plant has itself become so derelict that this is most improbable, but in many cases substantial uncertainty remains, and none but those in the confidence of Boards of Directors can know the extent of the probable dereliction.

In the original reports submitted to the Cabinet, and in particular in Sir Wyndham Portal's report on South Wales, much material was included which has no doubt enabled the Government to make a more accurate estimate than is possible from the limited information that it has been thought proper to publish. This uncertainty is, however, removed in some few cases, such as that of Jarrow, where "rationalising" organisations (in this case National Shipbuilding Securities Ltd.) have acquired a works for the purpose of preventing it being used for its original purpose, and have thus rendered the dependent town undeniably derelict. The uncertainty has greatly increased the practical difficulties of dealing with the problems of the derelict areas. The ordinary worker is seldom in a position to judge the prospects of future production at Dowlais or Ebbw Vale. There are never lacking

[1] This very necessary noun I have derived from the Report of Sir Arthur Rose.

the encouraging remarks of company chairmen to reinforce all the normal inclinations of the worker, more particularly if he is house-owner, to hang on in the hope of better times coming. And in some few cases he has proved unexpectedly right.

The only satisfactory use, then, of the term "derelict" is to imply that even in the event of the maximum probable recovery of industry certain given resources will remain redundant for the purpose for which they are at present organised. But the moment it is recognised that dereliction is more often an economic than a physical phenomenon the basis of the present inquiries becomes suspect. There is no physical test by which dereliction can be recognised, and individual investigators sent out to different areas may either exaggerate or under-estimate its extent. Sir Wyndham Portal, for example, has attempted to estimate the probable extent of superfluous labour in the South Wales coalfield by assuming that all existing mines were worked to their present full capacity. Such a method will, of course, indicate the irreducible minimum of superfluity, but if the purpose is to judge the probable local share in a national superfluity, it almost certainly under-estimates the figure or yields a result which is possible only with substantially increased unemployment elsewhere.

A single Commissioner dealing with all the areas concerned as a single problem will have a far easier statistical problem, and in some respects an easier practical problem, than that which faced the industrial investigators. He will know that to some given extent at least either the Tyne shipyards or the Clyde yards must be regarded as superfluous. A unified policy can attempt to deal with a problem whose total dimensions at least can be sufficiently accurately estimated, and can do its utmost to avoid the inevitable regional conflicts for survival. It is to be hoped, therefore, that the appointment of a single Commissioner will mean that the problem can be regarded as a whole, and that the separation of the Scottish area under a separate Commissioner will not imply a failure to reconcile the divergent interests of Tyne and Clyde.

These difficulties of defining and of recognising the extent of dereliction must not, however, be permitted to obscure its importance, both locally and nationally. It is sufficient in many cases that its existence be admitted, for the methods of treatment are largely independent of its scale. The problem of the physical exhaustion of natural resources is not, of course, a new one. So long as it was simply a physical problem, and the total demand was stable or increasing, it was solved as a rule by short-distance

migration to newer undertakings. Labour followed the coal southwards down the Welsh valleys or eastwards towards the Durham coast. Such movement needed little encouragement or organisation. In recent years the more distant migration from Wales and other parts to the developing Kent coal-field has required rather more assistance, but has differed in degree rather than in kind from the usual short-distance movements. It is the onset of economic dereliction, accompanied by an unusually heavy mortality of mines opened during the period of rapid expansion of the coal industry in the early and middle part of the last century, and finally abandoned owing to falling coal prices, that has created a new problem of adjustment.

Each of the investigators has been concerned to study three methods of dealing with the consequent difficulties. They have studied the possibilites of industrial revival, of the diminution, that is, of the degree of dereliction by better organisation and reductions of costs, or by slight adaptations of existing depressed industries. As regards the coal industry Captain Euan Wallace has emphasised the menace to pits still working of the flooding of pits that have been abandoned. Valuable coal has already been submerged and lost. He is himself convinced that only by common action can these Durham pits be effectively dewatered and one area be prevented from causing possible damage to another. Common action is, however, impossible without such reorganisation on the one hand as will make feasible a common policy, and without unification on the other hand of mining royalties so that the conflict of interest between royalty owners and lessee can be in some measure resolved. Sir Wyndham Portal also urges unified drainage of the South Wales mines and presses for further Trade Agreements, for the exploitation in South Wales of the hydrogenation process, and for the exploration of the possibility of gas fuel for road vehicles. But it is recognised that this method of dealing with the problem must be supplemented by one or other of two further methods, that of transferring men to other and more prosperous districts, or that of attracting new industry to the depressed areas.

The method of transfer, so long as trade was reasonably prosperous, was already proceeding apace. From Durham during the five years 1926–1931 some 129,000 persons, about 9 per cent. of the population, migrated to other areas in search of employment. But such migration is obviously a last resort. No one can fail to sympathise with the chairman of a parish council who told the investigator for Cumberland, " We are up against

transference. We do not want to see our community breaking up." The social problems of transference are reinforced by the economic problems. Local government services, provided out of rates, have no cushion of profits and no simple process of bankruptcy and reorganisation. The declining local authority, saddled with the debts of the past, with a heavy load of unemployed and with services proportioned to past population, must raise its rates further and frighten away yet more of the remainder. New housing, new local government services must be provided elsewhere. But the difference in social cost is seldom, if ever, fully reflected in differences in wage rates and in costs to a prospective employer. Transference may be a necessary evil, and may need to be developed further, but the alternative possibility of attracting new industries must be first explored to the utmost.

It is here that the reports will probably be regarded as most disappointing. The four areas with which the reports are concerned possess some of the best raw materials and a large proportion of the most skilled labour of the country. They are not derelict through any wholesale exhaustion of their mineral wealth. Why then has Capital failed to make use of the available resources? Captain Euan Wallace has examined this problem in greater detail than have the other investigators and it will be of interest to consider his conclusions. In the first place, he is convinced that despite the derating of industrial hereditaments, the burden of high rates remains a strong deterrent to new industrial influx. Local rates in Jarrow were 17*s.* 9*d.*, the block grant was equal to a further 13*s.* 2½*d.*, and of the total 48 per cent. was required for public assistance. In several of the depressed Welsh towns they varied between 21*s.* and 27*s.* 6*d.* Even with these high rates the most necessary of local services were inadequately maintained. No prospective employer will willingly subject himself and his future employees unnecessarily to these exactions. Captain Euan Wallace pleads, therefore, for the removal by some mechanism of the unequal burden of rates due to expenditure on public assistance. "Apart from the fact that the present situation does not appear to be defensible on grounds of equity or logic, its effect upon the depressed areas is not constant but cumulative."

The second ground for reluctance to start industrial enterprises in the Durham area he believes to be that of Trade Union activity. Both he and Sir Arthur Rose claim that their areas have gained a reputation undeserved by the facts of recent years. The average of working days lost by disputes in Durham has

been substantially less than that of the country as a whole. It remains, nevertheless, probable that the political reputations of the Clyde, South Wales and Durham will, even if unreasonably, deter the prospective employer.

Captain Wallace puts forward as a further handicap to the possible Durham employer the over-centralisation of banking policy and decisions. Amalgamations have implied that all decisions of importance must be made in London and the distant authorities are more concerned than their predecessors with assets and balance sheets and less with probable earning capacity. An even more important deterrent he finds in the psychological atmosphere of a depressed area. Anyone who has seen the rust-holed roofs and the grass-grown railway tracks of a derelict works, or the former employees gathered in despairing groups at the corners of a main street whose shops, save for a few chain stores financed from outside, are paintless and half empty, whose cinemas and public-houses are bankrupt and closed, would himself feel disinclined for any but altruistic reasons to start a business in such a place. Captain Wallace pleads for the clearing of these abandoned works and derelict buildings, with their heaps of rubbish and disused materials, and for their conversion either into public open spaces or into sites available for new industrial undertakings.

The most important factor of all remains. Prospective employers tend to think too much in terms of the accessibility of the prosperous markets of the South of England, too little in terms of the possible local markets of the North. Industry is attracted by prosperity, repelled by depression. It tends, therefore, to move constantly towards the more prosperous Southern Counties even in those conditions in which, if the North were prosperous, the industry would be better located there. Having appreciated this point both Captain Wallace and Sir Arthur Rose, when it comes to practical policy, recommend nothing more than "to remove or minimise the causes which operate to exclude certain areas from the industrial developments which are now taking place," [1] for "any artificial direction of industry would probably prevent development." [2] Certainly their suggestions for removing obstacles are valuable, but it is surprising that both should be so concerned to maintain a world of pure *laissez-faire*, which in so many other respects they are prepared to abandon, and surprising also that neither has observed that the argument for protection or assistance, which *laissez-faire* economists have always conceded in the case of infant industries, is as valid when

[1] Captain Wallace, p. 82. [2] Sir Arthur Rose, p. 223.

applied to the problem of location within a given national area as it is to the problem of location in the international sphere.

The problem of the derelict areas really conceals two separate problems : the first the general restoration of prosperity through British industry as a whole, the second the control of the precise industrial and geographical settings in which that recovery is to take place. It is sometimes suggested that the derelict areas are not a separate problem at all, that they are merely a symptom of the larger problem of the restoration of full employment in a changing world, and that, given any real recovery of trade, there would be mobility enough to secure re-employment of the vast majority of those at present unemployed in these areas. There is, of course, a measure of truth in this, and the restoration of general prosperity is almost certainly a necessary condition of any effective solution of the problem of the depressed areas. But with the high degree of immobility both between place and place, and as regards the older men between industry and industry, the frictions to be overcome are very great. A financial and industrial policy which, if applied uniformly to the country as a whole, might attract workers out of the derelict areas or restore prosperity within them, would almost certainly produce exaggerated conditions of boom in the more prosperous parts of the country, and an almost inevitable relapse once the boom had achieved its results in attracting labour. This may be the necessary price of general industrial reorganisation and adaptation to post-war trade conditions. But there is a real danger that exaggerated boom conditions will attract workers into places and industries quite other than those in which in more normal conditions they would be required.

There is a second, and I think a more fundamental, objection to leaving the problem of the derelict areas to solve itself in the process of a general trade recovery. There is no reason to believe, and good reason to disbelieve, that *laissez-faire* will redistribute unemployed resources in the most economical way. It will redistribute them in accordance with the scheme of demand which exists at this moment (and as modified by the subsequent movements) and not in accordance with the scheme of demand which would exist under full employment in the present geographical setting. It will redistribute them in accordance with the scheme of external economies which exists at the moment and not in accordance with the scheme which would exist under full employment in the present geographical setting. The relevant problem of industrial location inside the British Isles to-day is

not where industries ought to be on the assumption that South and East England are prosperous and the North and West severely depressed, but rather where our industries ought to be when the North and West (granted sufficient internal migration to clear hopelessly derelict areas) are once more prosperous. What is required then is some form of differential economic policy, offering a sufficient stimulus to recovery in the depressed areas and yet not an exaggerated stimulus in those areas which are already relatively prosperous.

It is to the interest of no one employer, unless he is on a very large scale and unless his markets are mainly abroad, to go to the North and restore prosperity there. It must be the task of the Government to attract him there in all those cases in which, on our criterion, he ought to have gone there. The Government may, if it likes, do this by distributing its own orders not purely on the basis of the lowest tenders but in accordance with present public policy or future strategical policy. It is indeed almost pathetic to find each of the investigators claiming especial precedence for his area in the distribution of Government orders. But Government orders are not sufficiently large in present circumstances to make the difference between depression and prosperity, though they may well assist. Internal tariffs, even if politically possible, would be undesirable. There remain three methods whereby a Government could stimulate the location of industry in a particular area. There is, first, the method of subsidy, either directly or indirectly in the provision of facilities for the new industries. There is, second, the method of encouraging special wage bargains in depressed areas, so that lower labour costs will attract the new industries. The remaining method is that of expenditure on useful works, wherever a project can be discovered that shows reasonable prospects of a return on the capital invested. The failure of the old staple industries has led to such secondary unemployment and to such diminution of local incomes that those industries which provide commodities other than primary necessaries, the minor luxuries of the fully employed salaried or skilled worker, cannot flourish in the market conditions of the North. If there could be such restoration of these incomes that investment could profitably be made in these industries, and if they could be built up on a local market to serve not only that market but more distant markets as well, then the effects of public works need not be as ephemeral as they are supposed, for example by Sir Wyndham Portal, to be.

The investigators are nevertheless probably right in thinking

that the efficacy of public works as a sole means of curing local unemployment may not be very great. Public works are most efficacious where the system in which they are expected to produce their results is most nearly closed. But the economy of Tyneside or of a South Wales coal valley is very far from being closed. The exceedingly interesting inquiry into the conditions in Brynmawr, conducted under the leadership of the Society of Friends, would appear to indicate that approximately 60 per cent. of expenditure in that derelict town is on goods imported into the town, approximately 40 per cent. on goods or services produced in the town. If this ratio would apply to increments of income as well as to the average of the whole, and if all additional income were spent and none saved or used to repay debts, then £100 of direct income from public works would yield only some £67 of local secondary incomes. That is, three men put into employment directly would employ indirectly only two more. Clearly South Wales as a whole, or the North-east Coast as a whole, is far more nearly self-sufficient than a single small town. The amount of secondary employment in the whole area may be substantially greater and induce further secondary employment in the small towns themselves. Nevertheless, it remains true, I think, that when account has been taken of probable savings and debt repayments and of increased actual payments of rents the local secondary employment is likely to be comparatively small. This is the more likely where incomes are increased after a period of severe depression and local sources of supply for the newly-demanded goods are insufficient, so that they are brought in from the already prosperous areas.

If, then, a temporary restoration of local incomes is to produce any permanent effect it is necessary that as much as possible of the addition to incomes shall be spent at each stage on local products. This requires that local producers shall be in a position to expand production as readily as possible, and that every facility shall be given for the establishment of new firms. Special facilities for loans at exceptional rates of interest to borrowers from these areas, the greatest possible remission of taxation, a little encouragement to "buy from your own best customers," combined with the removal of as many as possible of the obstacles considered by Captain Wallace, might help to secure that when incomes exist they will be spent in such a way as to give the greatest addition to local employment. But in the present situation the existence of facilities to expand production is almost certainly insufficient. Until demand for products is created neither a low rate of interest

nor special facilities can persuade producers to invest. The initial impetus must come mainly from such activities as the onslaught on the housing problem and the improvement of local communications which Captain Wallace himself demands. A policy of caution here may defeat itself. There is in almost every case a minimum increase of demand necessary to stimulate new production. It is by no means impossible that a smaller total amount spent more rapidly should produce a greater effect than a larger amount dribbled out more slowly.

There is one further possibility that deserves more consideration than it has yet received. The problem of the special areas is in each case predominantly one of the coal industry. The location of the production of coal is not at present entrusted to the ordinary working of economic forces. It is planned by the coal-owners themselves under the powers granted to them by the Coal Mines Act of 1930. In the scheme prepared by the coal-owners under that Act it is laid down that, in making allocations as between district and district, the Central Council must take into account all relevant information, "not excluding the relative position of districts before the war." But quite evidently the difficulties of mobility out of the coal industry are not uniform throughout the country. There is much to be said in a period of reviving trade for increasing the allocations to districts from which mobility is relatively difficult, in so far as that can be done without inflicting damage on particular coal-consuming industries. Such a policy would be justified not on the grounds of planning, but because it would serve to reproduce the conditions which would exist if wages moved freely in accordance with the local demand for labour, and output was determined solely by costs and profits. In practice the exact opposite has been allowed to happen. The proportionate share of Scotland, South Wales, Durham and Cumberland in the total allocations during each of the years 1931–33 has been substantially less than their share of the output either for 1913 alone or for the whole five years immediately preceding the war. AUSTIN ROBINSON

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Report of Monetary Committee, 1934, New Zealand. Pp. 128. Minutes of Evidence, Monetary Committee, 1934, New Zealand. Folio. Pp. 745. (Government Printer, Wellington, N.Z. 1934.)

NEW ZEALAND has followed the example of this country and of Canada in appointing what has come to be known as a "Mac-

millan Committee"; though in this case, unlike the other two, there was no Lord Macmillan to preside. The New Zealand Monetary Committee was appointed after the decision had been taken to establish the Reserve Bank of New Zealand, but before the new Reserve Bank had been actually set up. I gather that the Committee came into existence, not so much to consider the duties and potentialities of the new Reserve Bank, as in response to the activities of Douglas Credit enthusiasts in New Zealand.

As in the case of the other Macmillan Committees, the Report serves the very useful purpose of providing for the first time an excellent up-to-date description of the actual monetary and banking system of the country. Probably the expert secretariat, Mr. Ashwin, Dr. Sutch, and Mr. Barker of the New Zealand Treasury are mainly responsible for the good quality of the descriptive work which fills a gap in our information. It should prove useful in bringing economic education in New Zealand into closer touch with the economic facts of the country, whatever may be the controversial value of the Report in its influence on policy.

Again, as with our own Macmillan Committee, the members seem to have broken up into two partly irreconcilable groups—the division in New Zealand being between those who were prepared to endorse, broadly speaking, the existing monetary policy of the Government of New Zealand, and those with definite sympathies for the Douglas Credit proposals or some similar system. And corresponding to Lord Bradbury there was Mr. Downie Stewart, formerly Minister of Finance, to write a minute of his own from the strictly old-fashioned *laissez-faire* point of view.

The majority of the Committee came to the conclusion that there was not a great deal for the Government to do, beyond what it was doing already, to remedy the economic crisis in New Zealand by monetary methods. At the same time they had a number of suggestions to make, several of which have been carried into effect since they reported. In particular they recommended that New Zealand should definitely come on to a sterling exchange standard and that the exchange should be stabilised at £125 New Zealand to £100 sterling. As a corollary to this they favoured the sale of the existing stock of gold. They recommended an amendment of the Reserve Bank Act to facilitate open-market operations by the purchase of long-term securities as well as of short-term securities. They recommended the amalgamation of the Government Lending Departments, the establishment of

a National Mortage Corporation, a reduction of the rates of interest on deposits and over-drafts, and the setting up of a Development Commission to handle the Public Works programmes as a whole with a view to a coordination of policy; all these measures being with a view to the encouragement of home investment. These proposals have, I think, either been adopted by the Government or are under favourable consideration.

The Committee make out, in my judgment, a strong case for the view that there is little or nothing to hope from more drastic inflationary proposals. The table printed below, compiled for the

Year.	Volume of Production apart from Buildings.	Volume of Exports.	Volume of Imports.	Volume of Goods available for Consumption.
1926	100	100	100	100
1927	108	108	96	102
1928	117	112	100	111
1929	122	116	114	121
1930	124	119	106	118
1931	117	120	69	92
1932	114	132	66	83
1933	122	151	66 [1]	82

[1] Figure not available, but assumed to be the same as for 1932.

Committee by the Government statistician and the Treasury, demonstrates overwhelmingly that the troubles of New Zealand have been primarily due to a disastrous worsening in the terms of trade. The increase in the volume of exports relatively to the volume of imports is doubtless partly due to the substitution of the repayment of foreign obligations for the incurring of additional loans; and it would have been useful if the extent of this could have been indicated. Nevertheless, it seems clear that, even after allowing for this, the decline in consumable income has been mainly due, not, as in some other countries, to a serious decline in the volume of production, but to a decline in the purchasing power of exports over imports. The volume of production in New Zealand is as high as it has ever been, and the volume of exports is much greater than any previously recorded figures. The indications are, therefore, that any attempt further to expand the volume of exports could only result in a still further worsening of the terms of trade; whilst for a country in which foreign trade occupies so large a proportion of the national economy as in New Zealand, an attempt to change over on a large scale from working for export to working for home investment or home consumption would probably involve too severe a reduction in the standard of life. There is, in truth, no remedy for New Zealand

except a recovery in her terms of trade with the rest of the world to a more normal level.

Indeed the above figures suggest that New Zealand may have already gone farther than is prudent in the direction of trying to restore her earning power by expanding her exports. During the exchange collapse on the Continent in the post-war period, it was found that a point comes when a further decline in the exchange actually diminishes the foreign purchasing power of a country, the over-stimulation of exports by an extremely depreciated exchange causing their aggregate value to fall in terms of foreign currency in spite of an expansion in their volume. If the New Zealand Committee had accepted the advice given by some witnesses that they should devalue their exchange still further, it seems not unlikely that the result would have been to worsen rather than improve their effective earning power. In common with Australia, New Zealand has already gone a considerable distance in the direction of accepting modern policies and has taken full advantage of the assistance of her team of economists, Professor Tucker, Professor Belshaw, Mr. D. O. Williams and others. Thus, there was less room than there would have been in many other countries for such a Committee as this to recommend further drastic changes.

A considerable part of the Report naturally deals with the proposals of the Douglas Credit organisations, since there was a widespread public demand in New Zealand for an authoritative examination of such proposals. As it happened, Major Douglas was himself in New Zealand when the Committee was set up, so that he was invited to give evidence in person, as well as the local head of the Douglas Credit movement, Colonel Closey, the evidence of the Major and the Colonel between them occupying some 85 folio pages. With the Major himself the Committee had great fun, the proceedings becoming at times almost hilarious. It was left to Colonel Closey to put forward the orthodox Douglas solution, and Major Douglas devoted most of his evidence to a new scheme specially designed for New Zealand, by which a proportion of the reserves of the banks was to be credited to customers with over-drafts on a *pro rata* basis of the average over-draft of these customers during the last three years, the shareholders in the banks being compensated by the State for any injury they might thereby suffer, together with something obscure but analogous in the case of the insurance companies. The majority of the Committee summed up severely :—" The Douglas Social Credit proposals are perhaps idealistic in intention but certainly detrimental and

retrogressive, if ever the application of them were admitted. The express and implied assumptions cannot bear logical analysis nor even, allowing for the falsity of the assumptions, is there any attempt made to derive logical conclusions." Those who are interested in observing the Douglas school under examination by an official committee will find a *locus classicus* in the New Zealand Minutes of Evidence.

J. M. KEYNES

CURRENT TOPICS

THE following have been admitted to membership of the Royal Economic Society :—

Allaun, F. J.
Allhusen, Capt. D.
Anderson, K. L.
Argyropoulos, C. D.
Armstrong, R.
Bassett, I.
Beattie, A.
Bevan, A. E.
Bhattacharyya, M.
Billingham, F.
Board, M.
Bramwell, B. S., LL.B.
Briggs, Rev. H.
Brocklebank, C. G.
Broemel, P. R.
Bryden, W. D.
Chetwynd, P. G.
Chian, J. A.
Cole, L. W.
Colyer, S. W. R., M.D.
Conybeare, B. M.
Cope, W. E.
Cornelius, F. B.
Corscadden, E.
Coultas, F. G.
Cox, W. L.
Crew, A.
Curnow, H. A.
Dascovici, Prof. N.
Davies, D. J.
Davies, H.
Davies, T. M.
Davies, W. H.
Desai, S. A.
Dobson, W. P.
Dutt, N.
Dutt, R. C.
Farlam, G. B.
Farmer, W. G.
Fernald, R. L.
Fieller, E. C.
Finch, B.
Flitcroft, S. H.
Franklin, A. W.
George, D. C.
Gibbons, T. B.
Glasman, B.
Gray, L. H.
Greaves, Dr. Ida C.
Gupta, H. L.
Hall, L. L.
Hardy, E. D. P.
Hastings-Till, E. A.
Hopkins, A. H.
Horner, H.
Hussain, A.
Iben, Dr. I.
Ingamells, W. J.
Jackson, G. L.
Johnstone, F. C.
Jones, G. T.
Jones, R. H.
Kahawita, S. C.
Kaminsky, D.
Kasliwal, S. S.
Kelso, F. K.
King, T. B.
Ladishew, Dr. T.
Lamb, J. R. G.
Langmuir, D.
Lerner, A. P.
Levy, A.
Lewin, J.
Lewis, T. H.
Lochhead, A. Van S.
Luz, Dr. F.
McDermott, Rev. J.
MacFarlane, G. E.
McGovern, Miss E.
Marlar, E. A. G.
Mathur, K. G.
Merchant, B. T.
Miller, T. H.
Milnes, A. H.
Mohilever, A. L.

Mork, R.
Murdeshwar, D. R.
Nath, R.
Neill, D. G.
Oddy, T. H.
Owen, A. D. K.
Pearson, F. A.
Ponisowsky, A.
Ponn, J. A.
Ponniah, J. S.
Ponton, D. T. A.
Prasad, D.
Prestwich, H. J.
Prothero, J.
Puri, D. R.
Radleigh, J. R. Y.
Ramsay, J. M., O.B.E.
Rangan, V. A. K.
Rao, G. R.
Richards, H. O.
Richardson, W. A.
Riches, D. M. H.
Rodgers, R. S.
Rollinson, W. A. C.
Rollit, D. K.
Ross, J. A., Jr.
Rutenberg, P.
Sadler, T.
Saunders, C. F. W.
Schuster, Sir George, K.C.S.I., K.C.M.G., M.C.
Schwarzschild, P. H.
Seed-Roberts, Miss E. M. E.
Sefole, E. D.
Seth, D. D.
Seth, R. G.
Shastri, S. K.
Shetty, S. S.
Shone, R. M.
Shuloff, E. H.
Smith, G. E.
Smith, R. F.
Spencer, R. J.
Stone, J. R. N.
Sully, L. T. G.
Taylor, A. H.
Taylor, J. S.
Thirlby, G. F.
Thomas, A. R.
Thompson, G. P.
Tollinton, R. B. B.
Tuffin, F. S.
Ugarte, S.
Vithal, L. K.
Wade, W.
Waran, K. V. S.
Wells, P. A.
Westby, G.
Westwood, J. C.
Whelen, J. H., Jr.
White, W. E.
Wilkinson, J.
Woodworth, L. D.
Wright, Rev. R. R.

The following have compounded for life membership of the Society :—

Beasley, Prof. C. G.
Bell, Miss H. M.
Blellock, D.
Butterfield, G. W.
Dinsdale, W. A.
Gambino, A.
McDougall, J. L.
Morgan, R. S.
Phillips, O. E.
Robson, L. W.
Sethna, M. J.
Stewart, Blair.
Tucker, E. S.
Villard, H. H.
Wilson, W. B.

The following have been admitted to Library membership of the Society :—

Lincoln University Library, U.S.A.
Liverpool Steam Ship Owners' Association.
Political and Economic Planning, London.
Reserve Bank of New Zealand.

The National Bureau of Economic Research of New York has lately published two further volumes which are available to members of the Royal Economic Society on special terms, namely:

1. *Industrial Profits in the United States*, by Ralph C. Epstein, Professor of Economics in the University of Buffalo. 672 pp. Published at $5, but available to members of the Royal Economic Society at 15*s*.

Dr. Epstein has secured fuller data concerning profits than any of his predecessors. For 2,046 business houses and for 664 trading corporations he has an unbroken record of income statements for each of the years 1919 to 1928. Supplementary statements for 71 corporations carry the record to the end of 1932. With these materials at his disposal, he is able to increase greatly our knowledge of what rates of profit business enterprises earn upon the capital invested and how these rates fluctuate. Broadly speaking, he finds that competition is not an efficient leveller of profits among different lines of investment even in cases where there are no legal limitations.

2. *Mechanisation in Industry*, by Harry Jerome, Professor of Economics in the University of Wisconsin. Selected Bibliography, 400 pp., 55 tables, 5 charts. $3.50. Available to members of the Royal Economic Society at 10*s*. 6*d*.

Professor F. C. Mills writes in an introductory preface: "We find here a wealth of detail as to the actual changes which mechanisation has involved over a wide area of industrial activity. Conveyors, electric hoists, mechanical stokers, concrete mixers, steam ditchers, steam-jet weed destroyers, rotary ballast sweepers, power tie tampers, portable escalators, trench excavators—these are the stuff of modern industry. Here is realism about the industrial process. But Dr. Jerome sees beyond his details. He has emphasised the wide range of consequences which must be traced if one is accurately to measure the effects of a mechanical change. In doing so he provides an effective corrective alike for the visions of doom and for the prophecies of a mechanical millennium."

Members may also be reminded that another volume in the same series, *German Business Cycles*, by Dr. Carl T. Schmidt, is now available to members at a price of 7*s*. 6*d*. This was mentioned under Current Topics in the JOURNAL of June 1934, but was not included in the general catalogue circulated to members.

A further volume is also available in the London School of Economics series of reprints which was mentioned in the general

catalogue but without a price, namely, Carl Menger (1871), *Grundsätze der Volkswirtschaftslehre*, 1934; pp. xi + 286, price 7*s*. 6*d*.

Applications for any of the above should be sent to the Assistant Secretary, Mr. S. J. Buttress, 6 Humberstone Road, Cambridge, accompanied by a remittance.

The Joint Committee on Materials for Research of the American Council of Learned Societies and the Social Science Research Council of the United States announce that the following material is now available:

Hearings on the Codes of Fair Competition held under the National Industrial Recovery Act, 68 film volumes, and the *Hearings on the Marketing Agreements, Codes, Licences, and Processing Tax Matters of the Agricultural Adjustment Administration*, 58 film volumes, copies by the Joint Committee on Materials for Research, Washington, 1934.

In response to requests from Libraries the Council is prepared to make these materials available in film form.

The A.A.A. materials comprise 136,000 documents, which include the stenographic reports of the hearings and copies of data submitted in support of testimony prior to and subsequent to the hearings in the form of letters, telegrams, petitions, case studies, charts, statistical tables, pamphlets, books, etc. The N.R.A. materials comprise 150,000 documents, which do not include the inaccessible confidential data known officially as A and B material, but which contain transcripts of all the testimony and exhibits submitted during the hearings.

Film copying was considered the only feasible method of reproduction, since the cost per page was reduced from two cents charged by the official reporters to approximately one-eighth cent, and since the film produced is relatively permanent and non-inflammable and requires little storage space. With the assistance of a *Guide* to the A.A.A. and an *Index* to the N.R.A. films, which will be furnished with the film sets, the materials can be handled more easily in film form than in their original form. If read by means of a Recordak projector (Model No. 8 or the Library Model, taking both 16 and 35 mm. film), the film is just as legible as the original.

In accordance with its plans for a Publishing Service, the Joint Committee will furnish film copies at cost on a sliding scale basis, whereby the price of each set is determined by the number

of subscriptions. Each subscription will include a fixed charge of $2\frac{3}{4}$ c. per foot for the positive film copy plus a charge designed to amortise the expenses incurred in making the original master negative. A set of the N.R.A. films will be furnished on payment after receipt of invoice of an initial sum of \$200 and on agreement to pay an additional sum, to be determined by the number of subscriptions received by March 1935, which is not to exceed \$29.70. For the A.A.A. films an initial payment of \$170, plus a charge not exceeding \$22.78, will be required. Inquiries should be addressed to T. R. Schellenberg, Executive Secretary, Joint Committee, Western Reserve University, Cleveland, Ohio.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society.

PART IV, 1934. *Discussion of Methods used in Different Countries for Estimating National Income.* PROF. A. L. BOWLEY and others. *On the Two Different Aspects of the Representative Method: the Method of Stratified Sampling and the Method of Purposive Selection.* J. NEYMAN.

Economica.

NOVEMBER, 1934. *Capital and the Heritage of Improvement.* E. CANNAN. *Carl Menger.* F. A. VON HAYEK. *Measures of the Growth of British Industry.* C. SNYDER. *Notes on the Pure Theory of Public Finance.* F. C. BENHAM. *Recent Land Tenure Changes in Mid-Devon.* J. J. MACGREGOR.

Review of Economic Studies.

OCTOBER, 1934. *The Glasgow Building Industry.* A. K. CAIRNCROSS. *Taxation and Production.* U. K. WEBB. *Fluctuations in Capital and the Demand for Money.* S. P. CHAMBERS. *Economic Theory and Socialist Economy.* A. P. LERNER.

The Manchester School.

VOL. V, NO. 2, 1934. *Remarks on the Relationship between Economics and Psychology.* L. C. ROBBINS. *Spending and Investing.* G. W. DANIELS.

International Labour Review.

SEPTEMBER, 1934. *The Eighteenth Session of the International Labour Conference. Aspects of Planned Economy in Italy.* M. MARCELLETTI. *The Social, Economic, and Legal Conditions of Domestic Servants: II.* DR. E. MAGNUS.

OCTOBER, 1934. *The Effects of a Public Works Policy on Business Activity and Employment.* M. MITNITZKY. *Openings for Settlers in Argentina.* DR. E. SIEWERS. *The Position of Wireless Operators in the Mercantile Marine.* COMMANDER E. MANDILLO.

NOVEMBER, 1934. *The Origins of the International Labour Organisation.* C. W. JENKS. *Possibilities of International Action.* G. MÉQUET. *Productive Works in Greece: Land Reclamation and Settlement in Macedonia.* A. DOMESTICHOS. *Jewish Colonisation in Palestine: I.* M. BERENSTEIN.

The Sociological Review.

JANUARY, 1935. *Property and the Courts of Justice.* E. JENKS.

OCTOBER, 1934. *The Political Consequences of Economic Planning.* D. MITRANY. *The Number of Families in England and Wales.* GRACE G. LEYBOURNE.

The Eugenics Review.

OCTOBER, 1934. *German Eugenic Legislation.* A. LEWIS. *The Decline in the Birth-rate.* DR. W. WAGNER-MANSLAU. *The Graz Sterilisation Trial.* F. TIETZE. *International Federation of Eugenic Organisations.* C. B. S. HODSON.

The Economic Record.

DECEMBER, 1934. *Investment Policy in a Progressive Economy.* A. G. B. FISHER. *The Schedule of Interest Rates and Investment.* L. G. MELVILLE. *The Dilemma of Trade Unionism.* L. ROSS. *Limited Competition.* E. R. WALKER. *Tariff Level Indices.* J. G. CRAWFORD.

The South African Journal of Economics.

DECEMBER, 1934. *Co-ordination and the Size of Firm.* PROF. W. H. HUTT. *150 Years of Economic Contact between Black and White.* H. M. ROBERTSON. *Some Aspects of the Economic Life of the South African Bantu.* PROF. G. P. LESTRADE. *The Combination of the Factors of Production in Agriculture.* A. P. VAN DER POST.

Quarterly Journal of Economics.

NOVEMBER, 1934. *Solar and Economic Relationships:* a Preliminary Report. C. GARCIA-MATA and F. I. SHAFFNER. *The Effects of the Recovery Act upon Labour Organisation.* D. A. MCCABE. *Long and Short Term Credit in Early American Banking.* B. HAMMOND. *What is Perfect Competition?* JOAN ROBINSON. *The Influence of Marginal Buyers on Monopolistic Competition.* A. J. NICHOL.

The American Economic Review.

DECEMBER, 1934. *"Fundamental Equations": New Interpretation.* K. RÜBNER-PETERSEN. *Concept of Property: Labor Cases.* T. R. WITMER. *How Germany reduced Unemployment.* F. BAERWALD. *Quantity Theory and Wages Fund.* K. F. FICEK. *Federal Home Loan Bank System.* J. E. MCDONOUGH.

Journal of Political Economy.

OCTOBER, 1934. *The New Model Trade Agreements.* E. B. DIETRICH. *Discrimination between Places under Section 3 of the Interstate Commerce Act.* D. P. LOCKLIN. *The External Depreciation of the Dollar and its Effect upon the Price Level in the United States.* S. D. ZAGOROFF.

DECEMBER, 1934. *The Status of Unemployment Insurance in Great Britain.* HELEN HOHMAN. *Crisis and Readjustment in Australia.* A. G. B. FISHER. *Unemployment Insurance in Germany.* D. CREAMER. *Professor Pigou's "Theory of Unemployment."* P. M. SWEEZY.

Annals of the American Academy of Political and Social Science.

NOVEMBER, 1934. *Social Welfare in the National Recovery Program.* Setting forth the main features of current measures of relief and rehabilitation; followed by a monograph on the Conduct of German Foreign Affairs.

JANUARY, 1935. *Radio: The Fifth Estate.*

Wheat Studies (Stanford, California).

OCTOBER, 1934. *Decline in Wheat Flour Export during the Depression.* The Export flour trade of the world has undergone a pronounced decline during the past five years. The decline of the flour trade is greater than that in wheat. In particular the flour trade of the U.S.A. has suffered disproportionately. The present study is concerned with the extent and causes of this decline. The unfavourable factors are described and it is insisted that a high wheat price in the U.S.A. is a direct deterrent to export of American flour.

NOVEMBER, 1934. *Prices of Cash Wheat and Futures at Chicago since 1883.* This study makes available a weekly record of Chicago wheat prices for more than fifty years. It includes cash prices in addition to prices of the four principal futures. This series is unique in that it provides throughout the particular price of the spot wheat on which the futures price is based. Existing compilations of prices of " contract " wheat attain this result only imperfectly.

DECEMBER, 1934. *The World Wheat Situation, 1933–4. A Review of the Crop Year.* The crop year 1933–4 was one of disappointed hopes. Early indications suggested a crop small enough to secure substantial reduction of the world surplus. As the season progressed estimates grew larger and larger. The appraisals of December 1934 were 10 per cent. higher than the forecasts of August and September 1933. Gold prices reached a new low level, though the effects in several countries were mitigated by depreciation or protection. Price fixing, subsidies to exports, and barriers to imports were more in evidence than ever before. Year-end stocks reached a new high level. The first attempt at international control was unsuccessful in its major objectives. " Wheat adjustment " in the U.S.A., while domestically a gratified success, had little or no favourable influence on the international position.

Revue d'Économie Politique.

SEPTEMBER–OCTOBER, 1934. *Avant-Propos.* G. PIROU. *Expériences Alemandes.* C. VON DIETZE, H. VON BECKERATH, F. SYRUP. *Expériences Américaines.* L. H. BEAN, V. JORDAN, J. P. WARBURG. *Expériences Anglaises.* L. C. ROBBINS, A. PLANT. *Expériences Italiennes.* G. BASSANI. *Expériences Internationales.* F. MAURETTE. *Plans d'Économie Dirigée.* H. NOYELLE.

NOVEMBER–DECEMBER, 1934. *Évolution du Crédit et Contrôle des Banques.* M. ANSIAUX. *Liason entre prix et monnaie.* R. WOLFF.

Journal des Économistes.

OCTOBER, 1934. *L'Idéal Mondial et les Forces qui le contrarient.* E. PAYEN. *La Tragédie de Marseille.* X. . . . *Le Commerce Extérieur des Principaux Pays pendent le 1er Semestre 1934.* R. J. PIERRE. *La Conférence de Londres* (Mai 1934). FERNAND-JACQ. *Le Libre-Échange, juillet 1934.* B.D.L.L.E.

NOVEMBER, 1934. *Le Budget de 1935 et le Nouveau Gouvernement.* E. PAYEN. *La Conférence du Bloc Or et les Rapports Économiques Franco-Belges.* C. ENNESCH. *La Yougo-Slavie.* R. J. PIERRE. *L'Œuvre de la Caisse d'Amortissement.* N. . . . *Les Institutions de Crédit Communal en Pologne.* C. DE KOWNACKI.

DECEMBER, 1934. *L'Industrie Pétrolière.* R. J. PIERRE. *Léon Walras et son Temps (1834–1934).* G. H. BOUSQUET. *Méditerranée : Espagne–Portugal.* M. CARSOW. *Les Chemins de Fer en Pologne.* G. DE KOWNACKI. *La Monnaie italienne et sa Couverture.* E. P.

Revue de l'Institut de Sociologie.

OCTOBER–DECEMBER, 1934. *Les Classes Moyennes et la Crise en Belgique.* E. MAHAIM. *XVI^e Semaine Sociale Universitaire de l'Institut de Sociologie Solvay.* J. MASSART. *Économie et Politique d'Aujourd'hui.* R. BEHRENDT.

Journal de la Société Hongroise de Statistique.

1934. Nos. 1–2. *About Politics and Documentation.* COUNT P. TELEKI. *Contributions aux questions de source et de méthode de la statistique historique hongroise.* G. THIRRING. *Problèmes des Indices.* É. VARGA. *Les Établissements de Crédit de Hongrie.* J. SZIGETI.

1934. Nos. 3–4. *Questions de politique démographic.* B. KENEZ. *Considerations théoriques pour juger le mouvement des prix.* F. HELLER. *Le service statistique de l'État hongroise en dehors de l'Office Central Royal Hongroise de Statistique.* D. LAKY.

Weltwirtschaftliches Archiv.

NOVEMBER, 1934. *Wirkungen der extremen Formen der Inflation auf den Wirtschaftsorganismus.* C. GINI. The author analyses the forms and effects of *Hyperinflation*, which he defines as an inflation of such a degree of intensity that the useful effects are more than upset by the detrimental. This may come about by an excess in the degree of inflation (*Ultrainflation*) or by an excess in the pace of inflation (*Grossinflation*). The latter accounts for most of the detrimental effects. *Währungsentwertung und Krisenüberwindung in England.* O. EMMINGER. An investigation into the effects of the devaluation of the sterling and the monetary policy of the Bank of England leads to the conclusion that the experiment of 1931 was not as successful as it might have been had it been undertaken earlier and had the Bank of England from the outset pursued a bolder monetary policy. *Die Verschiebung der Wirtschaftskräfte im Fernen Osten.* J. F. HALKEMA-KOHL. Japan, India, the Dutch Indies and China represent different stages of industrialisation. The author does not think that political world leadership will be transferred to the Eastern Powers in the near future. *Die Tschechoslowakei in der Weltwirtschaft.* E. DITTRICH. The economic structure of Czecho-Slovakia is similar to that of the former Austro-Hungarian monarchy. But Czecho-Slovakia is much less self-contained. The future of her foreign trade rests with Middle and Western Europe, not with the Balkans.

JANUARY, 1935. *Neue Formen der Weltwirtschaft.* G. MACKENROTH. The liberal-capitalistic organisation of foreign trade has broken down. A new organisation must be built upon regulated home markets. Boards for the control of exports are insufficient. In future internal production will be stabilised and foreign trade determined by political circumstances. *A Rigid Economy in a Dynamic World.* E. M. PATTERSON. Economic, social and other

changes are buffeting us in greater numbers and with increasing violence. We shall have increasing need for an adaptable economic structure. But the huge amount of specialised fixed capital and fixed charges make this structure rigid. Our fiscal structure is particularly unadaptable. Efforts at gaining control have failed both in the financial and industrial field. The author recommends a clear-cut adherence to the gold standard, pay-as-you-go policy in government expenditure, a more elastic tax system, orthodox private finance holding down the ratio of debentures. *Staat, Sozialökonomie und Finanzwissenschaft.* B. Griziotti. It is argued that all economic science ought to be political science. The primacy of the State is stressed. From this point of view several schools of thought in the science of public finance are criticised. *Der Wirtschaftsaufbau Spaniens und die Problematik seiner Aussenhandelspolitik.* R. P. Grau. The present economic structure of Spain is analysed, its economic policy described and discussed, its conditions of equilibrium formulated.

Jahrbücher für Nationalökonomie und Statistik.

November, 1934. *Der Begriff homo oeconomicus und sein Lehrwert.* O von Zwiedineck-Südenhorst. It is the great mistake of the classical economists and their successors to conceive of the national economy as a society made up of " leaders of production teams." This led them so far astray as to consider egoism as motive of economic action and the maximisation of money gains as its aim, while actually the aim is reasonable allocation of one's own or other people's money to one's own or other people's purposes. Thus conceived the notion of the economic man is useful to science and policy. *Cassels arithmetische Behandlung des ökonomischen Gleichgewichtsproblems.* T. Schmid. Cassel's systems of equations, though in some respects defended against his critics, are insufficient to determine a general equilibrium even from a purely mathematical point of view. It is proposed to remedy this by taking as given the distribution of expenditure between different consumption goods as obtained from available statistics. *Die Entwicklung des gemeinnützigen Bauwesens in Deutschland seit Januar 1933.* O. Glass.

December, 1934. *Die soziale Verbundenheit und ihre Gestaltungen.* E. Jurkat. *Geistesgeschichte der deutschen Sparkassen im Aufriss.* A. Sommer. German Saving banks owe their origin to philanthropic ideas at the end of the eighteenth century. About 1850 they were used by the governments as a means of reconciling the workers with the existing order of society. This attitude was abandoned in the following liberal epoch. Now there is a new tendency on the part of saving banks to adapt themselves to the State ideology. *Der Mensch in der Siedlung.* H. J. Seraphim. Since the National-Socialist revolution the purpose of the German settlement policy has completely changed. It has ceased to be a part of economic and social policy, but is now an act of cultural and population policy. Creation of German peasants is the ultimate aim.

January, 1935. *Der Gemeinwert.* T. Suranyi-Unger. The notion of social value is developed. Social values in a capitalist and a socialist economy are contrasted. A direct measurement of

social values is impossible, but indirect conclusions can be drawn from the nature of the taxes and the public expenditure and from the direction of the State interferences. *Die Neugestaltung der Verkehrspolitik im nationalsozialistischen Deutschland.* A. F. Napp-Zinn. Three leading principles are being realised by the new German transport policy—central regulation, the conception of all sorts of transport as one service, and the leader principle in administration. *Die Entwicklung der deutschen Sozialversicherung seit dem Jahre 1933.* H. Mönch.

Schmollers Jahrbuch.

October, 1934. *Wirtschaftslogik.* E. Schams. The application of the notion of the mathematical function as applied to the system of dependent relationships, constituting economic reality, is shown to be logically consistent and adequate. The objection that it is only a mechanistic analogy is overruled. *Statistik und theoretische Nationalökonomie.* O. Kühne. The development of the science of statistics from a *notitia rerum politicarum* to a numerical method auxiliary to all other social sciences is considered as a deterioration and a programme for its resuscitation is outlined. *Das Werden der Verbindung von Landwirtschaft und Gewerbe in Württemberg.* G. Stockmann. *Das Werden der betrieblichen Sozialpolitik als Wissenschaft in Deutschland.* L. H. A. Geck. The author traces the history of social reform movements inside the community of the factory or enterprise and the development of the branch of science dealing with them. *Konkurrenzsystem und berufsständische Idee.* F. K. Mann. A review of *Adolf Weber's* text-book of economics. *Macht und ökonomisches Gesetz.* H. Peter. In the economic theory of a free market State interference has the character of a disturbance, and rightly so. The State by abolishing the free market cannot suspend the economic laws, but can make them meaningless. On the other hand, the theorems of economics ought not to have any bearing on economic policy.

Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte.

Part III, 1934. *Die Saarwirtschaft um 1800.* H. Overbeck. The economic activities of the Saar in the past are described under application of the methods of modern economic geography. It is argued that the Saar owes its industrial development to the German princes, not to Napoleon. *Die oberdeutschen Kaufleute in Lyon im letzten Viertel des 16. Jahrhunderts.* K. ver Hees.

Zeitschrift für die gesamte Staatswissenschaft.

November, 1934. *Die deutsche Staatswissenschaft.* E. R. Huber. *Gestaltung und Gestaltwandel der Volkswirtschaft.* H. Bente. *Gesamte Staatswissenschaft und exakte Wirtschaftstheorie.* A. Predöhl. *Gegenwartsaufgaben der deutschen Soziologie.* H. Freyer. The issue has the character of a manifesto on the task and position of the social sciences in the National-Socialist State. While Huber, Bente, and Freyer are mainly concerned with the change which the sciences they represent (constitutional law, economics, sociology) will have to undergo to fit the new state of affairs, Predöhl pleads for preserving the tools of economic theory in the service of the new idea.

Zeitschrift für Nationalökonomie.

DECEMBER, 1934. *Die Nationalökonomie des "New Deal."* W. RÖPKE. The author discusses the different theories underlying earlier and present policies; criticises the methods of carrying the present policy into effect; compares American policies with those of Germany. He examines the report of the Columbia University Commission and the contributions of several of its members. *Depression und Geldabwertung.* M. BOUNIATIAN. The policy adopted by Great Britain in 1931 and later followed by many countries was founded on an erroneous theory of prices, and resulted in a failure to stimulate industry and an increase of industrial troubles. Any temporary improvement of exports was at the cost of the ruin of other industries and the loss of the country's capital. Protection was everywhere encouraged and world trade diminished, gold prices lowered and depression aggravated. *Die Determinierbarkeit des Wirtschaftgeschehens.* E. SCHAMS. The prediction of economic facts is a problem of the theory of cognition, never as yet properly examined from the angle of methodology. The presuppositions of such predictions are set by the historical nature of economics and the theories employed for prediction. Being essentially non-temporal, static laws can predict nothing. Neither can dynamic laws predict anything, since history knows no laws. Herein lies the difference between the economic and the natural sciences; the latter have laws which determine all facts both generally and specially, whereas the former has only general laws, while all its facts are special, individual and temporal. Since the facts to be predicted are individual, economic prediction is an impossibility. *Beitrag zur Theorie des Zahlungsbilanzausgleichs. Automatische Kompensations-vorgänge nichtvalutarischen Art.* W. FELLNER. The readjustments of the German balance of fragments 1924–30 did not work in accordance with classical theory. Capital movements were largely balanced by trade movements, but at a later date. The changes in the balance of trade were not caused by a relative change of internal and external prices. The author propounds a non-monetary theory to explain readjustments in these conditions. *Die Bevölkerungslehre in Deutschland in der ersten Hälfte des XIX Jahrhunderts.* P. MOMBERT. The author discusses over-, under-, and optimum populations; the influence of capital; industrial and agricultural population; the effects of standards of life on the birth-rate; the distributions of wealth; the relations of population growth to economic problems. *Verzögerte Angebotsanpassung und partielles Gleichgewicht.* W. W. LEONTIEF. Continues the discussion of this problem by Ricci, Schultz, Tinbergen and Rosenstein-Rodan.

De Economist.

JULY–AUGUST, 1934. *Het coöperatief landbouwcrediet in Nederland in de laatste tien jaren.* H. J. M. JANZEN. A history of the development of agricultural credit during the last thirty years, with special reference to the Banks of Eindhoven and Utrecht. The relation of such banks to the Nederlandsche Bank is discussed. The figures cited reflect the economic and financial position of Dutch agriculture during this period. The writer emphasises the necessity of strengthening the reserves of the Banks and of allied

credit institutions. In spite of the long crisis, the co-operative credit institutions have been able to maintain their position, thanks to the insight of their leaders and the support indirectly given by the Government. *Een onderzoek naar den omvang van het afbetalingsstelsel onder keen bepaald aantal inwoners der gemeente Delft.* TH. VAN EBBENHORST TENBERGEN. The writer, as secretary of the Delft crisis committee, had an opportunity of collecting information with regard to the extent of instalment buying. The results are here published. Of 300 families applying for assistance, 113 had bought goods on the instalment system. These are analysed according to size of family, occupation, kinds of goods bought, size of payments, period of repayment, etc. Buying of wireless and pianos occupies a smaller place than is usually believed; the purchase of furniture and clothes occupies the first place. The system is not so widespread as is usually supposed, but examples of excessive burdens are quoted. A reference is made to projected legislation. *De Poolsche Corridor. I.* F. A. G. KEESING. A discussion of the economic consequences of the peace, so far as concerns the Polish Corridor and Danzig.

SEPTEMBER, 1934. *Theorie en praktijk.* C. A. VERRIJN STUART. Professor Verrijn Stuart retired on the 17th September; this article takes the place of a farewell oration. There is an increasing discrepancy between economic theory and economic practice. Value is the central point of all economic theory. There are two lines of criticism: firstly, by those (Spann and Cassel) who hold that the theory of value impinges on the field of psychology, with which economics should have nothing to do; secondly, by those who criticise the individualistic starting-point of the theory. It is argued that the principle of self-responsibility and of free price formation provide the strongest possible spur to effort and to the increase of the general well-being. "It merely testifies to insufficient reflection on the nature and significance of our individualistic system of production, when the present difficulties are regarded as symptoms of the decline of that system. . . . The crisis of to-day is a crisis not of capitalism, but of interventionism." As examples of divergence between theory and practice, the writer refers to the paradox of restriction, compulsory combinations and tariffs. Interventionism is criticised on the general grounds that it is in the interests of producers and not of the consumers, in violation of the maxim of Adam Smith that "the interests of the producers ought to be attended to only so far as it may be necessary for promoting that of the consumers." *Grensnut en conjunctuur. I.* M. A. LIGTERINK. The utility of the whole of goods may acquire a sudden increase or diminution for various reasons: (i) increase or diminution of population; (ii) war and preparation for war; (iii) the creation of new products, or new applications of existing products, so that hitherto unknown needs, higher in rank, are satisfied; (iv) the creation of new products or cheaper methods of production of existing products, so that existing needs are satisfied with less sacrifice. The first three factors are briefly discussed; the main part of the article is devoted to a detailed discussion of the fourth. *De Poolsche Corridor. II.* F. A. G. KEESING. A continuation of the discussion of the economic consequences of the peace in the matter of the Polish Corridor, with special reference to East Prussia.

Giornale degli Economisti.

SEPTEMBER, 1934. *L'Opera scientifica di Vincenzo Porri.* F. DI FENIZIO. *Sulla permanenza media dei turisti stranieri in Italia.* F. W. OGILVIE. The description of a technical method for determining the average length of stay of foreign tourists in Italy. *I prezzi all'importazione e all'esportazione secondo fonti diverse durante la crisi.* G. TAGLIACARNE. An explanation of the divergent results obtained in the case of different indices of the relative movements of Italian export and import prices.

OCTOBER, 1934. *Scritti in onore di Ulisse Gobbi.* (*Prima serie.*) A series of seventeen short articles by Italian economists, for the most part dealing with different aspects of the work of Professor U. GOBBI, and written in his honour on the occasion of his relinquishing his chair of Economics at Milan. Among others attention may be drawn to the following: *La dottrina generale dell'assicurazione di Ulisse Gobbi.* R. BACHI. A brief summary of the important contribution made by Professor Gobbi to the pure theory of insurance. *Dalla teoria vicardiana del valore alla corporazione proprietaria.* R. BENINI. A sympathetic view of the economic and social possibilities of the Corporative State by an ardent socialist. *Oligopolio e azione corporativa.* G. DEMARIA. Some applications of the theory of oligopoly to the problems of the corporative economy. *Crepuscolo della rendita del consumatore.* C. PAGNI. A critical account of Professor Gobbi's attack on the validity of the doctrine of consumer's surplus, regarded from the standpoint of the theory of general equilibrium. *Dell'identita di alcuni teoremi di economia pura.* M. FANNO. A brief note on the pure theory of barter.

NOVEMBER, 1934. *Scritti in onore di Ulisse Gobbi.* (*Seconda serie.*) The second series of twelve articles by different authors in honour of Professor Gobbi. *Il problema della tassazione nell'ipotesi di mercati aperti ed il principio produttivista dell'imposta.* A. GARINO CANINA. A discussion of a number of problems of the incidence and repercussions of different taxes on the assumption of an "open" economy.

DECEMBER, 1934. *La bilancia dei pagamenti internazionali e il movimento dei capitali in regime di valuta deprezzata.* V. MORETTI. A theoretical discussion of the effects of a depreciated currency upon the balance of trade and capital movements. *L'occupazione delle donne nelle fabbriche e negli uffici durante gli ultimi cinquant'anni e la diminuzione delle nascite.* G. TAGLIACARNE. The writer seeks to answer the question whether the fall in the Italian birth-rate during the last fifty years is due in an appreciable measure to the increase in the employment of women. The article contains some interesting statistical tables of the percentage of women employed in various industries, and of changes in the percentages between 1881 and 1931. The figures show *inter alia* that the proportion of women in industry fell from 45·25 per cent. in 1881 to 23·58 per cent. in 1931, and the proportion of women in the six main groups of occupations (excluding agriculture) from 37·73 per cent. in 1881 to 22·0 per cent. The article ends with the conclusion that "the fecundity of women employed in factories is not much below that of all Italian women."

Index (Stockholm).

OCTOBER, 1934. *The Progress of Science and the Hours of Labour.* G. CROWTHER.

NOVEMBER, 1934. *Present Position and Prospects of the Newsprint Industry.* H. ANSTRIN.

JANUARY, 1935. *Exchange Rates and Prices.* J. B. CONDLIFFE.

Kyoto University Economic Review.

[illegible] 1934. *The Fundamental Idea of Economic Policy.* PROF. M. KAMBE. *On the National Wealth of Japan in the Year 1930.* PROF. S. SHIOMI. *Horizontal and Vertical Differentiations in the Agricultural Production of Japan.* PROF. Y. YAGI. *A Critical Analysis of Böhm-Bawerk's Theory of Capital.* PROF. Y. TAKATA.

NEW BOOKS

British.

Abstracts of Dissertations approved for the Ph.D., M.Sc., and M.Litt. Degrees in the University of Cambridge, 1933–1934. Cambridge University Press. 8½″. Pp. 100.

ARMSTRONG (P. C.) and ROBINSON (F. E. M.) City and Country. Toronto: Macmillan. 7½″. Pp. xi + 145.

BASTER (A. S. J.). Advertising Reconsidered. King. 7½″. Pp. 128. 5*s.*

BEARD (C. A.). The Economic Basis of Politics. Allen and Unwin. 7½″. Pp. vi + 99. 3*s.* 6*d.*

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THE ECONOMIC JOURNAL

JUNE, 1935

THE COMMEMORATION OF THOMAS ROBERT MALTHUS

THE centenary of the death of T. R. Malthus should, in strict chronology, have been celebrated on the 29th December, 1934. As this date fell out of term time, his former College and University postponed its commemoration until the term following. On the afternoon of March 2nd, 1935, members and students of the Faculty of Economics and Politics in the University of Cambridge met in the Hall of King's College to commemorate the occasion. Professor Pigou took the chair, and allocutions to Malthus's memory were delivered by Dr. Bonar, Mr. C. R. Fay and Mr. J. M. Keynes, which are printed below. Later in the day the Master and Fellows of Jesus College gave a dinner in the College Hall at which a number of economists, statisticians and biologists, who had been invited from outside Cambridge, were present. The toast of the evening *In piam memoriam* was given by the Master, coupled with the name of Malthus's biographer, Dr. Bonar, who replied. Mr. Robert Malthus, the last representative in this country of the family of Malthus in the male line, was present. He confirmed the view that the family have always pronounced their name *Maulthus* with the *h* doubtfully sounded.

THE ALLOCUTIONS

I. DR. BONAR

My first duty is to thank King's College and the Faculty of Economics and our Chairman, Professor Pigou, for their welcome to us to-day. By "us" I mean the assembly here, who are guests like myself, but all more or less interested in economics, and therefore in Malthus.

My second duty is to put a question to myself which is likely to be put by the Public outside. I shall try to answer it to my own satisfaction, and I hope to yours, as it affects you and me

whether the Public ever thought of it or not: Why do we commemorate this man Malthus at all? Is he deserving of remembrance?

I answer: Yes, indeed, if only for the *impulse* he gave to the serious study of a branch of economics which, before him, was hardly a branch at all, but left to be handled in footnotes with apologies.

Ever since the appearance of the first essay of the youthful Malthus (he was thirty-two) in 1798,[1] the subject of Population has been treated by economists as worthy of serious study, a chapter or "Book" to itself and no apologies. Even in that first essay on the principle of Population, Malthus had drawn together the scattered hints of previous writers into a manageable doctrine or rough draft of a doctrine. I do not say it was universally well received, but it excited universal attention. It is true that there was (besides a general murmur of applause) a hurricane of angry criticism. The least fierce of the critics found (and still find) in its opening formulas, the ratios of the increase of population and food, either too much or too little mathematics. Malthus himself observed (and filled up in his second edition of five years afterwards) an omission, not concerned with mathematics.

But in that logically imperfect first edition there was logic enough or eloquence enough to captivate the British Public, and the publisher Johnson wished he had kept up type.

Some may say the impulse given was greater than any contribution of Malthus to doctrine. Very well; let us say that the impulse outlived the criticisms. Here is an example. Utopian Reformers cried out: "He has nothing for us but a Universal Negative; he frowns on Utopias; he frowns on early marriages; when we would go on, he pulls us back—saying, like the obsolete old decalogue, thou shalt not, thou shalt not. What help can such a teacher give to human progress?"

Search his scriptures thoroughly, from the imperfection of the first essay to the maturity of the later edition. You find something better than a Universal Negative; you find a Particular Affirmative; or let me try to sum up his heart's desire for the human race in *three* Particular Affirmatives:—

1. A lower death-rate for all.
2. A higher standard of life and livelihood for the Poor.
3. An end of the *waste*, even now going on in this twentieth century, the waste of young human lives.

[1] See ECONOMIC JOURNAL, 1898, page 200: "The Centenary of Malthus."

There might even be a summary in one phrase: he desired economy in human lives. A man who *secured* that would be among the greatest of economists; and a man who spent his life in the *effort* after it has surely "acquired merit" enough to deserve even such a Commemoration as to-day's.

It is true that the First Essay has more shadow resting on it than the later essays. Most readers pardoned it in so brilliant a writer as the author of the first. Such gloom as there was could be endured there, while the prosaic work of the later essays needed all the illumination and exhilaration that the subject could bear. As to the vulgar charges of cruelty and atheism, he defends himself in his later editions quite convincingly. Fairer matters of attack were: His exaggerations, slips in reasoning, imperfect statistics; for these he is on his trial still, but no more and no less than all his tribe. It is the reasoner's fate—to endure criticism at every step of the way; and, as all economists are reasoners, they must be prepared to give rebuffs and to take rebuffs as Malthus gave them, and had occasionally (being a mortal man) to take them. Let other writers be happy if in the end they have so small a balance against them as Malthus on his first and chief subject of Population.

There may be a call from the crowd (by no means from the present assembly of chosen spirits) for his tangible achievements which he who runs may read and cannot easily run away from. Here are a few. The impression made by the First Essay whipped up the English census of 1801, and made later censuses certain. Not that Malthus was the originator of the first census; there were many good men pressing for it. But it was of his doing that it could never be held back again as it was fifty years before. Also, he helped Governments to avoid bad mistakes in their Poor Laws—not that he never made mistakes in his own proposals now and then on that field of hard labour.

Again, just before his death in 1834, he joined with Quetelet and Babbage in creating the Statistical Society. Last year in the Annals of the Society he was duly recognised as a "Pious Founder" of it.

Darwin got hints from him in working out the theory of the Survival of the Fittest.

Like Darwin, he has added a new word to the English language, an adjective from his own name.

Paradoxically, Malthus, who was all his life never more rabid in politics than a mild Whig, became a hero of the Philosophical

Radicals. John Stuart Mill, once one of them, tells us that Malthus was recognised by them for what he had really done; he had not closed the door to progress, he had for the first time opened it. And his contributions to theory outside the Essay are of high importance if not at the same supreme altitude. He gave rise to the classical theories of Rent and Value, having a fair claim to a large share in the making of both. His support of his arguments by facts, more especially in the Essays, was sufficiently novel to make our dear friend Alfred Marshall (so well known in Cambridge and so powerful an economist) almost persuaded to set him down a leader of Historical Economists. His discussions with his friend Ricardo were carried on in long letters still available to us. If allowed to be nothing more, they must be always a good preliminary training ground for economic students. But there was something more. Many of us feel the gentler pressure of his hand in the argument; and a few of our best men (I have two in my mind) tell us that he would have been a better leader for us than Ricardo. Well, the world is all before us. It is not true of theories as of hard facts that what is done cannot be undone!

Let our friends convert us.

Here is another feather in the cap of Thomas Robert Malthus. So far as I can find out, he was the first in our own country to wear the title Professor of Political Economy.

A friend of mine, more at home in his Shakespeare than in his Economics, wrote of him thus impudently:

"*This Malthus of our Dismal Science was the first Professor*,—ay he was the first." He was so appointed, in fact, at Haileybury when the East India Company's College for cadets was opened there in 1806. It was not an inspiring place for any professor who could hope now and then to have inspiration from his pupils. But it allowed him leisure to write books and pamphlets and letters to like-minded friends, and leisure enough to pursue his own thoughts. He was not a laughing philosopher like his friend Sydney Smith; but dismal he was not any more than his subject. To be *dismal* is to be afflicted with an extreme form of pessimism, more familiar to Carlyle than to Malthus. If he showed signs of the complaint in 1798 at thirty-two years of age, he recovered from the mild attack. He was personally a normal Englishman more given to merriment than sadness. So his friend Daniel Clarke tells us;—and we all know that about that time of life, thirty-two, a man is just beginning to overcome a certain "oscillation" between melancholy and merriment,

such as led Milton to his immortal contrast of them. Malthus was passing out of that stage of our diversified human life and becoming able to see the possibility of a good time coming for his own country and even for Europe and the world after all. He observes both in 1803 (p. 31), and in his farewell edition of the Essay in 1826 (p. 404 of Vol. II) that England stands next to Norway and Switzerland for a good record of infant mortality. We have not had a worse but a better experience since his time. Like Macaulay, we have heard of nothing but decay and seen nothing but progress. Nowhere more evidently than in Public Health.

Certainly at Cambridge Political Economists have been as little dismal as was Malthus. How far from dismal were Marshall and Sidgwick, to say nothing of your still living economists, young and old, and, "as I in this place am specially bound to add," your brother economists at Oxford past and present; and in the regions beyond, including not only Scotland and Ireland, but America; and not only America, but all countries where our study is practised. All have diversities of gifts but, we hope and believe, the same spirit. And it is the spirit that animated our "First Professor."

I should like to think that, when we praise him now, he wakes up and listens. Whether he hears or not, we do right to give him his meed of praise. He had a single-hearted desire to know the truth, with unshaken courage to declare it, were it pleasant or unpleasant. It is often the unpleasant that appears first. The Prophet, himself, unpleasant at first to his hearers,—denouncing, for example, our sins against economy in human lives,—comes to his own pleasanter self again when his work is fully done. He is then shown to us as the Benefactor, worthy to be applauded, as Cambridge is now applauding her trusty and well-beloved son, in a Commemoration to be repeated, I hope, by Cambridge and all of you in 1966, the second centenary of the birth of Thomas Robert Malthus. May you all live to join in it!

II. Mr. Fay

It is of Malthus the social economist that I speak. As Adam Smith was of excellence the economist of policy and Ricardo the path-breaker in monetary thought, so the distinctive contribution of Malthus lay in the field of social economy. He launched the interest and in part the method which travelled through Nassau Senior and Stuart Mill to the social investigations of a later day, where the statistician not less than the theorist is in the line of

descent from him. And statisticians can never forget that Malthus' Essay of 1798 was among the influences which provoked the taking of the first census of the people three years later in 1801. By his ratios of increase, arithmetical for Nature and geometrical for Man (for, as our University Calendar reminds us, he was 9th Wrangler of 1788, four places below Gunning of Christ's), he framed a startling disharmony between population with its capacity for cumulative increase and natural resources which are limited and exhaustible. Although the middle link of his doctrine has been broken by the triumphs of technology in transport and agriculture in conjunction with the practice of birth control, yet it remains formidable at either end—in the New World, where resources have been recklessly exploited, and in the old world of Asia, where population teems upon areas so recently reclaimed from flood or desert by the capital and engineering skill of Europe. Malthus, checked by Malthusianism at home, still points a reproachful finger at the plundered land surface of North America and the premature marriage beds of the East.

Now a man may influence his generation by way either of attraction or repulsion; and attraction may show itself in the translation of his teaching to other spheres of knowledge, as well as in the incorporation of it into the policy, practice and literature of the sphere for which it was designed. In every one of these ways the influence of Malthus was potent.

The benign author of the *Essay on Population*, presuming to dispense misery and vice with the certainty of a Benthamite in holy orders, roused to angry protest the rebels of his day. Said William Thompson, the dean of Early English Socialism, "Insult not the suffering, the great majority of mankind, with the glaring falsehood, that by means of limiting population or not eating potatoes their own happiness is in their own hands, whilst the causes are left which render it morally and physically impossible for them to live without potatoes and improvident breeding."[1] And William Cobbett, composing as he rode on horseback through the fertile valleys of his beloved England, reared at the spectre of the Monster Malthus. "How can Malthus and his nasty and silly disciples, how can those who want to abolish the Poor Rates, to prevent the poor from marrying; how can this at once stupid and conceited tribe look the labouring man in the face, while they call on him to take up arms, to risk his life in defence of the land?"[2] And again, "It seemed to

[1] W. Thompson, *Distribution of Wealth*, p. 428.
[2] *Poor Man's Friend*, No. 2.

me that one way of exposing this mixture of madness and of blasphemy was to take a look, now that the harvest is in, at the produce, the mouths, the condition, and the changes that have taken place, in a spot like this, which God has favoured with every good that he has had to bestow upon man." [1] He was riding that day by the Wiltshire Avon.

But it was otherwise with the scientists whose concern was with Nature more than with Man. The doctrine of Malthus was germinal to the researches of Darwin and Alfred Russel Wallace in the theory of evolution by natural selection; and the testimony of both is unqualified. "In October 1838 (says Darwin), that is fifteen months after I had begun my systematic enquiry, I happened to read for amusement Malthus' *Population*, and being well prepared to appreciate the struggle for existence which everywhere goes on from long-continued observation of animals and plants, it at once struck me that under these circumstances favourable variations would tend to be preserved and unfavourable ones to be destroyed. The result of this would be the formation of a new species. Here then I had at last got hold of a theory by which to work." [2] And Wallace acknowledged a like indebtedness in language just as precise.

Inasmuch, however, as civilised man had left far behind the kind of animals which Darwin chiefly studied, the application of Malthusian teaching to the sphere for which its author designed it was necessarily more oblique. Parliament, indeed, did its best to keep the poor to the strait and natural way, when in 1834, the year of his death, it inscribed on the statute book a new poor law, the first-fruits of Benthamism, as it has been termed—a wreath from England to Malthus as I would rather say. That law with its workhouse test and rule of less eligibility lies outside our province, but the uproar caused only a few days ago by the effort of Government to curtail at points the present scale of unemployment relief measures dramatically the change in social outlook between 1834 and 1935.

An apologist for Malthus might indulge the hope that Parliament wronged him in the Act of 1834. But if it did, it was only because it went less far than he in principle desired, to judge by the evidence which he gave before the House of Commons Emigration Committee of 1827. For after 1815, as large numbers were dismissed from the fighting services, and as Canada, Australia and South Africa dawned on the horizon of settlement, emigration

[1] *Rural Rides*, ed. Pitt Cobbett, II. 57.
[2] *Life and Letters of C. Darwin*, i. 83.

to those quarters of the Empire became the panacea for English ills, of which the chief were the payment of agricultural labour from the poor rates, the influx of Irish immigrants and the distress of the hand-loom weavers. The issue, as envisaged by the Committee, was this. If the English or Scottish poor are emigrated, will the vacuum thus created be filled from Ireland with no better result than to supplant the wheat-fed population of Great Britain by the potato-fed population of Ireland? It was a problem for political economy, and the advice of Malthus was sought. He replied, "I think it is possible that the vacuum might not be filled up because those hovels" (he is referring at this point to Ireland) ". . . might be pulled down and not replaced."

But stopping the holes of habitation, though it might serve for badgers and rabbits, was hardly proper for human beings, even to the mentality of 1827. So they pressed him for another way, and he answered, "No other occurs to me except the one I myself proposed a long while ago, that those who were born after a certain time should not be allowed to have any parish assistance." These were the unbidden guests for whom, in the language of the *Essay* (edition 2), there was no vacant corner at Nature's mighty feast—these the unhappy persons who (to employ his earlier metaphor) had drawn a blank in the great lottery of life. But they pressed him further, this venerable witness now over sixty years of age (for they could hardly help remembering that by the laws of England men must not starve to death), and this time they put to him a leading question: "If cheap tracts were written and given to the poor and in some instances taught in the schools, explaining the doctrines you have just laid down with respect to the conditions of the poor, do you imagine they would be able to understand them and that they would apply what they learned to their own case?"

Answer. "I think they are not very difficult to be understood, but they are perhaps rather difficult to apply. I believe some tracts of that kind have been occasionally distributed."

Question. "Have you any knowledge of the effects produced?"

Answer. "I have understood that many of the labouring classes, particularly the artisans, acknowledge the doctrines which have been laid down on the subject of population."

At that the Professor of Haileybury College left it; and perhaps it was as well, for his teaching had sunk into the minds of certain artisans of whom the chief was Francis Place, the tailor of Westminster. And the result was action, furtive at

first, that would have horrified its innocent begetter. It had been hinted at in 1818 by James Mill, the father of nine—an inconsistency for which the eldest felt constrained to apologise—and it was expounded later with the courage born of suffering by Francis Place, the father of fifteen. It occupied a corner in the design of the community builders. Through Robert Dale Owen it reached America and returned a generation later to shock Victoria's England in the stirring fight for freedom staged by Charles Bradlaugh and Annie Besant. In 1877 the Neo-Malthusian League was founded. But I am stealing from an American scholar who more than any of us should be here to-day; and I commend to you the writings of Mr. Norman E. Himes; in particular his weighty introduction to Place's *Illustration and Proofs of the Principle of Population* (1822).

Malthus, however, had a friend and admirer who could be trusted to interpret him without imputing the taint of Condorcet, and this was Harriet Martineau, whose first three years of literary fame were the last three years of her master's life. Between 1831 and 1834 she wrote her *Tales Illustrating Political Economy and Taxation*, and in the last of these advertised the heart of the matter in round conclusions. "The condition of labourers may be best improved—1. By inventions . . . and making savings instead of supporting strikes. 2. BY ADJUSTING THE PROPORTION OF POPULATION TO CAPITAL." The master and disciple were alike in that, as they became famous, they were greatly abused. When she came to the number on Population, she knew there was trouble ahead. "While writing *Weal and Woe in Garvelock*," she tells us in her *Autobiography*, "the perspiration many a time streamed down my face, though I knew there was not a line in it which might not be read aloud in any family." [1] But she took comfort for the "tomahawking" which Messrs. Croker and Lockhart administered in the *Quarterly Review*, from the example of Mr. Malthus. "I wonder whether it ever kept you awake a minute?" she asked him. "Never after the first fortnight," was his reply.[2] So beautifully in one number did she portray the blessedness of domestic life that Malthus called round to thank her for it. Noble are those who marry when they love, and still nobler are those "who let it go by for conscience' sake, and do not ask for it again"—had been the moral of the tale.

How much one would give to have been present at that scene! —he the married clergyman virtuous and benevolent, she the maiden lady whose mind, though secular, was as nicely pure

[1] Harriet Martineau's *Autobiography*, I. 200. [2] *Ibid.*, 211.

the speaker with his hollow palate, the listener with her ear trumpet straining to lose no word, and the two in such spiritual affinity that she did not even need her trumpet to catch his mild and resonant vowels. To Miss Martineau's keeping we therefore commit this famous ex-Fellow of Jesus.

III. Mr. Keynes

In his preface to *The Revolt of Islam*, Shelley wrote :—

> "Metaphysics, and enquiries into moral and political science, have become little else than vain attempts to revive exploded superstitions, or sophisms like those of Mr. Malthus, calculated to lull the oppressors of mankind into a security of everlasting triumph."

Thus spoke the son-in-law of Godwin, against whose better hopes for mankind the *Essay on Population* had been directed. Nor did the other poet, Malthus's fellow-student at Jesus, Coleridge, take a more favourable view :—" Are we now to have a quarto to teach us that great misery and great vice arise from poverty, and that there must be poverty in its worst shape wherever there are more mouths than loaves and more Heads than Brains ? " "The remaining marginal notes," Dr. Bonar writes, " are chiefly of an interjectional character " (such as 'Ass ! '), many of them not very refined."

Thus to the poet of spiritual revolution and to the poet of spiritual conservatism alike Malthus appeared as a symbol of the sophisms of the economists—the ingenious and hateful tautologists who, out of the bowels of their humanitarianism, can prove, by means of truisms, that all attempts to mitigate poverty and misery are destined to increase it; that impulsive charity is a lesser social virtue than enlightened self-interest; and that all will be for the best possible in a miserable world if the business men are left with the least interference to get on with their beneficent pursuit of the survival of the fittest—meaning those financially most gifted.

This is how two diverse poets, having the highest powers of intellectual insight, interpreted what they were being told. Neither is such a charge, directed against the economists of the nineteenth century, wholly false. Nor have we to-day wholly escaped from it. The work begun by Malthus and completed by Ricardo did, in fact, provide an immensely powerful intellectual foundation to justify the *status quo*, to ward off experiments, to damp enthusiasm, and to keep us all in order; and it was a

just recompense that they should have thrown up Karl Marx as their misbegotten progeny.

It is not entirely unfair that the memory of Malthus should be thus associated. As the first edition of the *Essay* was directed against Godwin's *Political Justice*, so in the second appears the often-quoted passage against Paine's *Rights of Man* :

> "A man who is born into a world already possessed, if he cannot get subsistence from his parents on whom he has a just demand, and if the society do not want his labour, has no claim of *right* to the smallest portion of food, and, in fact, has no business to be where he is. At Nature's mighty feast there is no vacant corner for him. She tells him to be gone. . . ."

And when Samuel Whitbread proposed "to empower parishes to build cottages," Malthus wrote a pamphlet to urge that "the difficulty of procuring habitations" must on no account be alleviated.

Yet this association of the name of Malthus overlooks the fact that his life and work as an economist falls into two divided parts, each arising out of the events and influences surrounding him; and that the second part was an unavailing effort to upset the theory which Ricardo and his school were riveting on our necks. In the passage from which I have quoted Shelley continues :

> "Our works of fiction and poetry have been overshadowed by the same infectious gloom. But mankind appear to me to be emerging from their trance. I am aware, methinks, of a slow, gradual, silent change."

And in a footnote he generously remarks certain changes in the later editions of the *Essay on Population* "as a symptom of the revival of public hope." Let me read to you the passage near the conclusion of the second edition of the *Essay on Population* which Shelley doubtless had in mind :

> "On the whole, therefore, though our future prospects respecting the mitigation of the evils arising from the principle of population may not be so bright as we could wish, yet they are far from being entirely disheartening, and by no means preclude that gradual and progressive improvement in human society which, before the late wild speculations on the subject, was the object of rational expectation. To the laws of property and marriage, and

to the apparently narrow principle of self-love, which prompts each individual to exert himself in bettering his condition, we are indebted for all the noblest exertions of human genius, for everything that distinguishes the civilised from the savage state. A strict inquiry into the principle of population leads us strongly to the conclusion, that we shall never be able to throw down the ladder by which we have risen to this eminence; but it by no means proves that we may not rise higher by the same means. The structure of society, in its great features, will probably always remain unchanged. We have every reason to believe that it will always consist of a class of proprietors, and a class of labourers; but the condition of each, and the proportion which they bear to each other, may be so altered as greatly to improve the harmony and beauty of the whole. It would, indeed, be a melancholy reflection, that, while the views of physical science are daily enlarging, so as scarcely to be bounded by the most distant horizon, the science of moral and political philosophy should be confined within such narrow limits, or at best be so feeble in its influence, as to be unable to counteract the increasing obstacles to human happiness arising from the progress of population. But however formidable these obstacles may have appeared in some parts of this work, it is hoped that the general result of the inquiry is such, as not to make us give up the cause of the improvement of human society in despair. The partial good which seems to be attainable is worthy of all our exertions; is sufficient to direct our efforts and animate our prospects. And although we cannot expect that the virtue and happiness of mankind will keep pace with the brilliant career of physical discovery, yet, if we are not wanting to ourselves, we may confidently indulge the hope that, to no unimportant extent, they will be influenced by its progress, and will partake in its success."

In the closing years of the eighteenth century the misery of the labouring class presented itself to Malthus as chiefly consisting in their low standard of life. In the years after Waterloo and the end of the war it presented itself to him as chiefly a problem of unemployment. To these two problems his work as an economist was successively directed. As the solution of the first, he had offered his principle of population. Nothing, he urged, could raise the low reward of this factor of production

except the curtailment of its supply. But whereas in the first edition the stress is on the *difficulty* of curtailing its supply, in the later editions the stress is on the *importance* of curtailing its supply. In the second half of his life he was preoccupied with the post-war unemployment which then first disclosed itself on a formidable scale, and he found the explanation in what he called the insufficiency of effective demand; to cure which he called for a spirit of free expenditure, public works and a policy of expansionism. This time it was Malthus himself who was overwhelmed by the "sophisms of the economists." A hundred years were to pass before there would be anyone to read with even a shadow of sympathy and understanding his powerful and unanswerable attacks on the great Ricardo. So Malthus's name has been immortalised by his *Principle of Population*, and the brilliant intuitions of his more far-reaching *Principle of Effective Demand* have been forgotten.

Let us, however, think of Malthus to-day as the first of the Cambridge economists—as, above all, a great pioneer of the application of a frame of formal thinking to the complex confusion of the world of daily events. Malthus approached the central problems of economic theory by the best of all routes. He began to be interested as a philosopher and moral scientist, one who had been brought up in the Cambridge of Paley, applying the à priori method of the political philosopher. He then immersed himself for several years in the facts of economic history and of the contemporary world, applying the methods of historical induction and filling his mind with a mass of the material of experience. And then finally he returned to à priori thought, but this time to the pure theory of the economist proper, and sought, being one of the very first to seek, to impose the methods of formal thought on the material presented by events, so as to penetrate these events with understanding by a mixture of intuitive selection and formal principle and thus to interpret the problem and propose the remedy. In short, from being a caterpillar of a moral scientist and a chrysalis of an historian, he could at last spread the wings of his thought and survey the world as an economist!

So, let me in conclusion read to you the passage in which Malthus summed up what should be for an economist the relation of experience to theory:

> "We are continually hearing declamations against theory and theorists, by men who pride themselves upon

> the distinction of being practical. It must be acknowledged that bad theories are very bad things, and the authors of them useless, and sometimes pernicious members of society. But these advocates of practice do not seem to be aware that they themselves very often come under this description, and that a great part of them may be classed among the most mischievous theorists of their time. When a man faithfully relates any facts which have come within the scope of his own observation, however confined it may have been, he undoubtedly adds to the sum of general knowledge, and confers a benefit on society. But when, from this confined experience, from the management of his own little farm, or the details of the workhouse in his neighbourhood, he draws a general inference, as is very frequently the case, he then at once erects himself into a theorist, and is more dangerous; because experience being the only just foundation for theory, people are often caught merely by the sound of the word, and do not stop to make the distinction between that partial experience which, on such subjects, is no foundation whatever for a just theory, and that general experience on which alone a just theory can be founded."

I claim for Malthus a profound economic intuition and an unusual combination of keeping an open mind to the shifting picture of experience and of constantly applying to its interpretation the principles of formal thought. I believe that a century hence, here in his Alma Mater, we shall commemorate him with undiminished regard.

NET INCOME AND CAPITAL DEPLETION

§ 1. In the study of a stationary state a central position is occupied by the concept of net (real) income—the regular annual output of goods and services that results from the joint work of fixed stocks of labour, land and capital. This concept is quite clear-cut. Net income consists of the whole of the annual output minus what is needed to maintain the stock of capital intact; and this stock is kept intact provided that its physical state is held constant. In a non-stationary state things are not so simple. Net income is still in some sense the balance of gross output over what is needed to keep capital intact. But the notion of keeping capital intact is no longer clear-cut; and this fact prevents the notion of net income itself from being clear-cut.

§ 2. It will be convenient to start with a wide concept, which I shall call capital *depletion*. This is intended to cover all forms of capital decrease, both depreciation to be set against gross output before current net income is calculated, and capital losses not relevant to current net income. The question what part of capital depletion should be reckoned under the former and what under the latter of these two heads will be examined presently in §§ 10–12. The prior problem is to determine the precise significance of capital depletion as a whole.

§ 3. At first sight there seems to be a fundamental discord between economic principle and business practice. For economics the stock of capital existing at any time is a collection of objects, the extent of which is a purely physical fact. The size of the stock affects its value (in terms of anything we please), in the sense that stocks of different sizes in given environing conditions will have different values both per unit and, in general, in the aggregate. But the size of the stock is not directly *affected by* its value; it is exactly the same physical thing whether that value is large or small. For business practice, on the other hand, when particular capital instruments lose their value—become obsolete—either because improved instruments for rendering the same service have been invented or because that service itself is no longer wanted, capital is thought of as depleted: and depreciation allowances against obsolescence are always provided. The issue between these two points of view plainly needs clearing up.

§ 4. Everybody will agree that, if the productivity, and so the value in terms of output, of a community's capital stock is diminished because the quantity of labour available to work in conjunction with it has been cut down—whether on account of extensive emigration or because of an enhanced desire for leisure—the quantity of the capital stock must not be regarded as changed. So to regard it would be violently paradoxical. It would entail an identification of quantity and value. In like manner everybody will agree that, if people's rate of discounting future satisfactions underwent a large change, leading to a corresponding large change in the value (in terms of current product) of the existing capital stock, this again must be regarded as wholly without effect on the quantity of that stock existing at the time. But, these things conceded, does it not logically follow that *all* mere valuation changes are irrelevant to the size of the capital stock, and, therefore, that obsolescence, which is, of course, due to valuation changes, cannot affect that size? If this be so, the conflict set out in the preceding section is resolved by an uncompromising verdict adverse to business practice. Reckonings of net income arrived at by deducting from gross income an allowance to offset obsolescence make net income substantially smaller than it ought to be. To such a conclusion we are bound to feel a strong resistance. Cannot some middle way be found?

§ 5. I suggest that a satisfactory solution may be obtained by distinguishing between elements that are actually standing in the capital stock and elements that have been discarded from it. So long as an element stands in the stock, its quantity is a matter for physical measurement, with which valuation has nothing to do. But elements may be discarded from the stock, either on account of physical changes in them or on account of something that has happened to valuation. When they are discarded, the stock is *pro tanto* reduced. Thus valuation, though irrelevant to the quantity of such elements as are at any time standing in the stock, is, or may be, relevant to what elements do stand there, and so in this indirect way does, or may, affect the quantity of the stock. To judge of the significance and utility of this general idea—it is, of course, only a device of definition—we need to develop it in detail. That is the business of the next five sections.

§ 6. An element of capital stock—a machine, house or railway line—existing in a given environment in which a given quantity of labour and so on are available, will be engaged at work, provided that there is *some* quantity of labour in con-

junction with which it can produce an output of greater value than the value which that labour could earn elsewhere. Given this condition, such quantity of labour will be associated with it that the product of the marginal unit of labour so associated has a value equal to the ruling rate of wage; and the excess of the value of the total product yielded by the instrument over the aggregate wage of the labour engaged with it is its *rentable value.* From actual rentable value together with expected rentable value later on there is derived, by discounting, *present value.* Present value may thus be positive, even though current rentable value is nil, provided that rentable value at a later date is expected to be positive and to exceed the costs of maintaining the elements in good physical condition—*e.g.* a ship, that is laid up—until this later date arrives. Elements that have a positive present value in the above sense stand in the stock of capital; elements that have no present value are discarded from it.

§ 7. The most obvious way in which an element can cease to have actual or expected rentable value, and so can cease to have present value, is through physical decay. As it becomes more and more ramshackle and inefficient, the product, and therefore the value of the product, that it yields in conjunction with any given quantity of labour, becomes less and less. Eventually the element comes to have no present value at all. A second way in which the same thing may happen is this. The state of demand for the product that our element helps to make being unchanged, a technical invention may lead to new instruments for producing the commodity being made, and so indirectly may reduce its price below the minimum that is required to endow our element with any rentable or present value. It will be observed that discarding cannot be forced on any element unless a new and improved *type* of instrument has been invented. For though, of course, *if* a sufficient quantity of instruments exactly similar to our element were introduced, its present value would be driven down to nothing, this cannot, in fact, happen, because the new instruments themselves would have a nil present value and, therefore, would not be worth making. A third way in which the present value of an element can be reduced to nothing is through a change in taste, which lowers the value of the product that the element helps to make. If all the instruments hitherto engaged on that product were of exactly similar quality and were operated under equally skilful management, the present value of no one of them could be destroyed in this way unless the present value of all of them was destroyed. Demand, that is to say, must have collapsed so far that

it was insufficient to cover prime cost for *any* output. But, of course, in fact the instruments that are engaged are not all exactly alike, or operated under equally skilful management. In practice, therefore, there will be a number of them, whose present value is destroyed with a smaller collapse of demand than is needed to destroy the present value of all of them.

§ 8. To complete this part of the inquiry, it remains to ask what the situation is when an element has deteriorated physically in some measure but still stands in the stock of capital. We know already that, if the element has been affected through a valuation change, nothing has happened to its quantity. But, if it has undergone a physical change, the case is different. A distinction should be drawn between physical changes which, while leaving the element still as productive as ever, bring nearer the day of sudden and final breakdown, and physical changes which reduce its current productivity and so rentable value. With the former sort of change, until the breakdown occurs, the capital stock is, I suggest, best regarded as intact, just as it is best regarded as intact despite the nearer approach of a day that will make a part of it obsolete. With the latter sort of change we may conveniently conceive of physical discards being made, whose quantity is measured by the original quantity of the decaying instrument multiplied by the proportionate fall in its rentability. This is, of course, a subordinate matter; and a different view might be taken without the main argument suffering damage. In any event, even though we hold that certain sorts of capital affected by physical change or by obsolescence are discarded, not gradually in parts but suddenly as wholes, this does not imply that the aggregate of all sorts of capital together must experience a discontinuous discarding. Nor is anything that has been said inconsistent with the view that particular business concerns subject to discarding of a discontinuous type are well advised to make provision against it in a continuous manner by means of regular annual payments into a depreciation fund.

§ 9. Having now satisfied ourselves as to the occasions and manner in which a depletion of the stock of capital can take place, we have to determine what precisely is required in order that a given depletion may be offset. Plainly some new element of capital has to be made, and some productive resources have to be engaged in making it. But what new element is to be made and how much of productive resources are to be turned into it? Even if the discarding which has to be made good is the result of physical decay, a doubt suggests itself. Suppose that the cost,

in productive resources, of making a counterpart of the decayed element has altered since the date on which the original element was constructed. Will depletion be offset by the manufacture of an element like the original element or by the engagement in creating capital of a quantity of resources equal to the quantity that was engaged on the original element? If the cause of the discarding is a valuation change, there can plainly be no question of reproducing the discarded element; so that there is a still wider field of doubt. The right solution is, I suggest, as follows. When any discarding has occurred, in order to make good the depletion of capital implied in it, that quantity of resources must be engaged which would suffice in actual current condition of technique to reproduce the discarded element. But the direction in which this quantity of resources is engaged should be determined without reference to what the discarded element has been; it should be so chosen that the maximum possible addition is made to the present value of the stock of capital. If a machine has suffered damage and, in order to continue working, needs repair, in general much the most productive use for the resources engaged to offset the depletion of capital implied in this will be that of repairing the machine. But, if the demand for one sort of product has fallen off and some instruments so far engaged in making that product have in consequence been discarded, the most productive use for the offsetting resources will be in making machines for some industry the demand for whose product has meanwhile been enhanced. Here we have a clear principle. A basis for it may be found in the concept of capital as an entity capable of maintaining its quantity while altering its form and by its nature always drawn to those forms on which, so to speak, the sun of profit is at the time shining.

§ 10. By this method of approach we have, I think, overcome the dilemma set out in § 3 and have obtained a fairly satisfactory way of regarding capital depletion. But, as was indicated in § 2, this does not exhaust our problem. We have still to decide what part of capital depletion is relevant to (current) net income. To attack this issue let us start with the gross output of factors of production, no deduction being made even for damage done to the stock of capital by the process of production. Nobody would seriously propose to count in net income the whole of this. Everybody would agree that the part of capital depletion which consists in the destruction of instruments in the actual course of the work they do must be offset before the inventory of net income is drawn up. But, besides this sort of capital depletion,

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there is also capital depletion brought about by such things as earthquakes and wars. Nobody would seriously propose that, if a cosmic cataclysm were next year to destroy London, we ought, in reckoning next year's net income, to enter as a negative item the whole of the destruction that had been wrought. Thus we have fixed two extremes between which there would be general agreement that the concept of net income must be made to lie. Its inventory content must be less than that of gross output as defined at the beginning of this section, and it must be more than gross output minus the whole of any damage that the stock of capital is liable to suffer in the period to which the net income refers. We have to find a meaning for our concept somewhere within these limits.

§ 11. Now, had either of the limits themselves been chosen, it might perhaps have been possible to defend the choice on some ground of principle; but it is hopeless to seek for any ground of that kind in making choice of a point between the limits. Considerations of what is convenient and of what conforms in a general way with customary usage are relevant to our decision. In the light of these it is possible and reasonable to argue that one definition is more suitable than another. But there is plainly no definition to which we are ineluctably compelled. In the last resort we shall be forced to rely on a more or less arbitrary fiat. Net income is not a precise entity given in nature. It is a portion of gross output selected and marked off from the rest by a boundary line, which our own choice, not objective fact, imposes.

§ 12. Business practice in calculating net income clearly suggests what our choice should be. Allowance must be made for such part of capital depletion as may fairly be called "normal"; and the practical test of normality is that the depletion is sufficiently regular to be foreseen, if not in detail, at least in the large. This test brings under the head of depreciation all ordinary forms of wear and tear, whether due to the actual working of machines or to mere passage of time—rust, rodents and so on—and all ordinary obsolescence, whether due to technical advance or to changes of taste. It brings in too the consequences of all *ordinary* accidents, such as shipwreck and fire, in short of all accidents against which it is customary to insure. But it leaves out capital depletion that springs from the act of God or the King's enemies, or from such a miracle as a decision to-morrow on the part of this country to forbid the manufacture of whisky or beer. These sorts of capital depletion constitute, not depreciation

to be made good before current net income is reckoned, but capital losses that are irrelevant to current net income. The line between the two sorts of capital depletion cannot be drawn precisely. It may vary between different times and different places, between a country such as England, for example, and one in which earthquakes are familiar events, against which provision by insurance is usual. Here I am concerned, not so much actually to draw the line as to indicate in a general way the principles by which the drawing of it may most conveniently be guided.

A. C. PIGOU

TWO APPLICATIONS OF THE CONCEPT OF ELASTICITY OF SUBSTITUTION

THIS note belongs to an earlier era of discussions on the elasticity of substitution. Taking the definition for granted, it attempts certain applications of a simple and obvious character. Its object is to attain by the easiest possible route the humble summits which constitute its objective—to reach the top of the mountain rather than to search for intricate and perilous climbs.

Hitherto the application of the concept of elasticity of substitution has, I think, been confined to the case of joint demand. The problem of joint supply invites an analogous application : in particular, we may formulate a limitation to the ordinary view that an increase in the demand for one of two joint products must lead to a rise in the supply of the other. Imagine a particular firm producing two joint products, A and B, each being sold under conditions of perfect competition. The marginal cost of A is defined in the usual manner as the addition to total cost when one extra unit of A is produced, the output of B being kept constant. Similarly for the marginal cost of B. The elasticity of substitution then finds its natural definition as the quotient of a small proportionate change in the ratio of the amounts of A and B by the resulting proportionate change in the ratio of their marginal costs.[1]

We may now turn to the traditional question of the effect of an increase in the demand for A on the supply of B. By a process of simple inversion, a proposition of Mrs. Robinson's [2] assumes the following shape :—An increase in the demand for A will lead to a rise or to a fall in the supply of B according as the elasticity of

[1] If the firm is maximising its profit (the marginal cost of each joint product being equated to its price) and if its surplus profit is zero, then its output is such as to minimise average cost per unit of proceeds. It follows that for small changes in the neighbourhood of this point, the marginal cost of each joint product depends only on the *ratio* of their outputs and not on the absolute outputs. The above definition of elasticity of substitution is then water-tight.

In the same way, Mrs. Robinson's original definition of elasticity of substitution between factors in joint demand is water-tight for the case of a firm which, employing only the two factors of production, is maximising its profit and earning no surplus profit; *cf.* A. C. Pigou, ECONOMIC JOURNAL, June 1934, p. 233.

[2] *Economics of Imperfect Competition*, p. 258.

substitution is less than or greater than the elasticity of supply.[1] The effect on the output, and therefore on the price, of B is the outcome of a conflict between the tendency for A to be produced in the place of B and the tendency for more of the composite commodity, A–B, to be produced. The strength of each of these tendencies is measured by the elasticity, in the one case of substitution, in the other of supply.

In the case of perfectly inelastic supply, the supply of B is bound to be lowered as a result of the alteration in the proportions, except in the limiting case of perfect inelasticity of substitution (fixed proportions), when the supply of B (and of A too) is unaltered. In the case of perfect inelasticity of substitution (fixed proportions), the supply of B is bound to be raised.

In the case of perfect elasticity of substitution (complete substitutibility), the supply of B is bound to be lowered, except in the limiting case of perfect elasticity of supply, when the supply of B is unaltered (and so the price of B, as well as the price of A).[2] In the case of perfect elasticity of supply, the supply of B is bound to be raised.[3]

[1] The elasticity of supply in question is the elasticity of supply of the composite commodity, A–B. This composite commodity is heterogeneous in nature, since the proportion of A to B is altered when the demand for A alters. It is therefore necessary to define our units. To do so, we imagine one particular optimum firm in a given condition of the industry to vary the proportions in which it produces A and B. Then a unit of the composite commodity, A–B, is such as always to involve the same average cost of production. Thus *if* the cost of maintaining a sheep is independent of the proportion in which it yields mutton and wool, a sheep may be taken as the unit of the composite commodity, mutton–wool, and the appropriate elasticity of supply is the elasticity of supply of *sheep*.

An analogous difficulty arises when the concept of joint demand is applied, not to factors of production which co-operate in producing a perfectly definite commodity, but to commodities which by their co-operation fulfil certain needs. Sugar and tea are in joint demand and an increase in the supply of sugar will raise or lower the demand for tea according as the elasticity of substitution is less or greater than the elasticity of demand for cups of tea. But what is a cup of tea when its sugar content varies? The size of the cup must be varied in such a way that its contents would always command the same price, independently of their sweetness.

[2] At first blush the numerical example worked out by Mr. Henderson on p. 69, note, of his *Supply and Demand* is one of perfect elasticity both of supply and of substitution, so that no matter what happens to the demand for mutton, the prices both of wool and of mutton are bound to return to their original levels. If this were so the example would fail to provide a very useful illustration of the general principle of joint supply. But Mr. Henderson concludes by pointing out that "the marginal costs may . . . alter as the process of substitution extends. For the relative cost of maintaining merinos and crossbreds will not be the same for every farmer." However, it can scarcely be maintained that the substitution of crossbred for merino sheep provides a very proper example of an alteration in the proportions of two joint products.

[3] Mr. Henderson's statement (*loc. cit.*, p. 73) that "it is *not* the case that an increased demand for mutton must necessarily increase the supply or lower the

It is only when the supply of the composite commodity, A–B, is perfectly elastic that it can be stated unambiguously that an increase in the demand for A will lead to a rise in the supply of B. Turning back now to the case of joint *demand* for, say, C and D, it follows in the same way that it is only when the demand for the final product is perfectly elastic that an increase in the supply of C is bound to lead to a rise in the demand for D. Now perfectly elastic supply is not only easy to conceive but is the natural assumption to make for the purposes of approximation; but perfectly elastic demand seems scarcely worth considering. There is, however, one important case in which the demand is perfectly elastic—namely, the case of output as a whole, prices being measured not in money but in real terms. Since the price of anything in terms of itself must always be equal to unity, the demand in real terms for output as a whole is perfectly elastic.[1] Thus if we conceive of the national dividend as produced by two classes of factors of production, an increase in the supply of the one class must necessarily lead to a rise in real terms in the demand for the other class—on the assumption that full employment is always maintained. If capital and labour were the only factors of production an increase in the supply of capital would necessarily lead to a rise in real wages. This conclusion,[2] which is not, of course, new, is very important. While the effect of an increase in the supply of one factor on the reward to all other factors taken together depends on whether "the relation of co-operation between the two factors is more important than the relation of rivalry," [3] it is only the magnitude of the effect and not, as a careless reader of the *Economics of Welfare* might be led to suppose, its direction which depends upon such a comparison. For Professor Pigou is considering the effect of an increase in the supply of capital on the demand for labour. It is clear that there are other factors of production besides capital and labour, and it should be emphasised that Professor Pigou's conclusions would not apply equally to a world in which capital and labour were the only factors. In such a world, "the relation of co-operation between the two

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price of wool," may be justified by appealing to the likelihood of imperfect elasticity of supply of sheep in general. On the other hand, if the supply of sheep is imperfectly elastic, no matter how slightly, and if Mr. Henderson's numerical example is taken to suggest that the elasticity of substitution between mutton and wool is infinite, the supply of wool is *necessarily decreased.*

[1] *Cf.* my note in the *Review of Economic Studies*, October 1933, p. 76.

[2] For a recent formulation, see J. R. Hicks, *Theory of Wages*, p. 115.

[3] A. C. Pigou, *Economics of Welfare*, p. 661.

factors " would *necessarily* be " more important than the relation of rivalry," and it would be wrong to suppose that this question " is not one to which an *a priori* answer can be given." For the elasticity of demand, being infinite, would necessarily exceed the elasticity of substitution. The *magnitude* of this excess would have to be judged from " the general teaching of experience," but there would be no doubt about its existence. Only the limiting case of infinite elasticity of substitution, as, for instance, " if the only sort of capital instruments which mankind had learned how to make were a kind of Frankenstein monster capable of exactly duplicating the labour of manual workers, and not capable of doing anything else," would the degree of rivalry be as great as the degree of co-operation : in this limiting case an increase in the supply of capital, while still failing to lower the demand for labour, would leave the demand for labour unaltered.

But the fact that in the real world capital and labour are not the only factors of production, provides an *a priori* basis for the possibility that the relation between capital and labour will be predominantly one of rivalry rather than of co-operation.[1] This possibility is the stronger the more important is the part played by the other factors—so much is obvious—and *the less elastic is their supply.* It is by calling into operation the Law of Diminishing Returns from an inelastic supply of a third group of factors, that an increase in the supply of one factor may, under certain circumstances, cause a lowering in the demand for a second. The reason why " the opening up of rich quarries of slate or the increase in numbers or efficiency of quarrymen . . . would injure the makers of roofing tiles or producers of building materials, more than it benefited them as consumers," [2] is to be traced to the fact that the resulting rise in the standard of housing would not result in a sufficiently large expansion of the population.

But " all other agents of production will benefit," taken in the mass. On that point Marshall is quite explicit : " For instance, if without any other charge, capital increases fast, the rate of interest must fall. . . . There will result an increased production, and an increased national dividend : . . . the loss of one agent of production must result in a gain to others; but not necessarily to all others." [3]

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[1] For a more precise investigation of this matter, see Mr. Champernowne's article.

[2] Marshall, *Principles*, p. 537.

[3] *Ibid.*

A MATHEMATICAL NOTE ON SUBSTITUTION

§ 1. I PROPOSE to unravel the following problem : "What determines, in an industry, whether a small increase in the amount of one factor will raise or lower the demand, in terms of money, for another factor ?"

§ 2. For the analysis of this problem certain simplifying assumptions must be made. We must suppose that not more than three factors are employed : they must be sufficiently mobile, and they and their product must be sufficiently homogeneous, for there to be ascribed a unique amount of product, $F(xyz)$, corresponding [1] to amounts employed x, y, z and a unique demand price, $p(F)$, corresponding to each amount, F, of product. We must suppose that the demand prices, in terms of product, for the factors x, y, z are uniform throughout the industry and are equal to functions $X(xyz)$, $Y(xyz)$ and $Z(xyz)$ of the amounts of the factors employed in the industry. It is convenient to assume also that the supply price of each factor is independent of the amounts of the other factors.

These assumptions do not imply perfect competition in the sale of product or the hiring of factors, but they do imply that the way in which an increase in the supply of the factor is distributed among different producers within the industry is given. The assumptions do not imply that the market is either closed or perfectly open to the entry of new firms, but they do imply that we know how the number of firms and the distribution of resources will change with the change in the size of the industry's output.

§ 3. In the case where only two factors are employed, a simple answer to the problem is found : the demand for the other factor will be raised or lowered according as the elasticity of demand for the product of the industry exceeds or falls short of a critical value, η_{yx}, equal to the elasticity of substitution of one factor y for the other factor x.

In the case where three factors are employed, the criterion is, of course, again whether elasticity of demand for product exceeds

[1] Corresponding, that is to say, when the adjustments required by the new situation have come about.

or falls short of a critical value η_{yx}. In this case, however, η_{yx} is determined by three sets of influences :

(i) elasticity of substitution between the two factors;
(ii) elasticities of substitution between the third factor and the two factors;
(iii) the significance of the third factor and stickiness to changes in its amount.

η_{yx} will rise or fall with the elasticity of substitution between the two factors, but will differ from it because of the possibility of changes in the amount of the third factor. The size of this difference will depend on the elasticities of substitution with the third factor, and in most cases will be the smaller, the smaller is the "significance" of the third factor, and the greater its "stickiness in amount." These terms will be defined in a later section.

These rules will in certain cases enable us to establish limits within which η_{yx} must lie, although we can only form rough estimates of the elasticities of substitution and very rough estimates of the significance of the third factor and of its "stickiness in amount."

§ 4. In order (a) to make the meaning of the statements precise and (b) to demonstrate them, I shall employ an unusual notation the use of which saves time and mental effort :

Let E denote Δ log, "the small proportional change in," and the operators $\frac{E(\quad)}{E(\quad)}$ and $\frac{e(\quad)}{e(\quad)}$ denote $\frac{d(log\quad)}{d(log\quad)}$ and $\frac{\partial(log\quad)}{\partial(log\quad)}$ so that, for instance,

$$Ex = \frac{\Delta x}{x}, \frac{EF}{Ex} = \frac{x}{F}\frac{dF}{dx} \text{ and } \frac{eF}{ex} = \frac{x}{F}\frac{\partial F}{\partial x}.$$

I shall assume the following types of identity, which can easily be verified :

$$Ep + EF = E(pF); \ \frac{E(pF)}{Ex} = \frac{Ep}{Ex} + \frac{EF}{Ex} \quad . \quad . \quad . \quad \text{Type I.}$$

$$\frac{Ep}{Ex} = \frac{Ep}{EF}\frac{EF}{Ex} \quad . \quad . \quad . \quad . \quad \text{Type II.}$$

$$\frac{EF(xy)}{EY(xy)_{y\text{ const.}}} = \frac{eF}{ex} \div \frac{eY}{ex} \quad . \quad . \quad . \quad \text{Type III.}$$

$$EF(xy) = \frac{eF}{ex}Ex + \frac{eF}{ey}Ey \quad . \quad . \quad . \quad \text{Type IV.}$$

Elasticity of curve $p = p(F)$ is $\pm \frac{EF}{Ep}$ . . . . . Type V.

§ 5. With the help of this notation I shall first analyse η_{yx}, the critical elasticity of demand, in the case where only two factors are employed.

I define elasticity of substitution of the factor y for the factor x to be:

"The proportional change in total product F divided by the proportional change in Y, the demand price, in terms of product, of one factor, when the amount y of that factor is held fixed and the amount x of the other factor is varied."

This definition must be interpreted as referring to very small changes taking place over the period under consideration.

The definition may be expressed symbolically:

$$\text{Elasticity of Substitution of } y \text{ for } x,\ \sigma_{yx} = \frac{EF}{EY_{y\ \text{const.}}}.^{1}$$

In order to prove that η_{yx}, the critical value of the elasticity of demand for product, is equal to the elasticity of substitution σ_{yx}, we may consider the case where elasticity of demand η actually has the critical value η_{yx} so that

$$\eta_{yx} = \eta = -\frac{EF}{Ep}.$$

This equation is a symbolical expression of the definition of elasticity of demand.

[1] This definition agrees with the mathematical definition given by Dr. Hicks in *Theory of Wages*, p. 244, if we assume with him that the wage of the factor y is equal to the value of its marginal product $p\dfrac{\partial F}{\partial y}$.

For in this case $Y = \dfrac{\partial F}{\partial y}$ so that our definition,

$$\frac{EF}{EY_{yz\ \text{const.}}} = \frac{\dfrac{\partial F}{\partial y}}{F}\,\frac{\Delta F}{\Delta \dfrac{\partial F}{\partial y}_{y\ \text{const.}}} = \frac{\dfrac{\partial F}{\partial y}}{F}\,\frac{\dfrac{\partial F}{\partial x}\Delta x}{\Delta x} = \frac{\dfrac{\partial F}{\partial y}\dfrac{\partial F}{\partial x}}{F\dfrac{\partial^2 F}{\partial x\,\partial y}}$$

which is Dr. Hicks' definition.

There are two important cases when the assumption $Y = \dfrac{\partial F}{\partial y}$ is satisfied:

i. When there is perfect competition and absence of external economies and the number of firms is fixed.

ii. When there is perfect competition and absence of external economies or diseconomies, and the number of firms alters so that, throughout, total sales proceeds are equal to total wages paid to the two employed factors.

In the second of these two cases it can be shown that the definitions are equivalent also to the definition given by Mrs. Robinson (*Economics of Imperfect Competition*, p. 258)—"the proportional change in the ratio of the amounts of the two factors divided by the proportional change in the ratio of their marginal productivities to the firm." But in other cases our definition differs from those given by these writers, and our results must not be interpreted in terms of their definitions of elasticity of substitution.

We may also make use of the equations

$$Ex \neq 0,\ Ey = 0, \text{ and } E(pY) = 0,$$

expressing the condition that when the supply of the factor x is changed, and the amount of the other factor y is held fixed, the demand price for the other factor will not change.

Since $E(pY) = 0$, we have, by identity type I, $Ep = -EY$, expressing the fact that, in order that demand price (proper) of y may remain constant, the increase in demand price (in terms of product) of y must be balanced by the decrease in price of product.

It follows that

$$-\frac{EF}{Ep} = \frac{EF}{EY_{y \text{ const.}}},\ i.e.\ \eta_{yx} = \sigma_{yx}.$$

These equations express the fact that elasticity of demand and elasticity of substitution are defined as fractions, whose numerators are identical and whose denominators must be equal where the elasticity of demand has the value η_{yx}.

We have thus established the result stated above, that the critical value of elasticity of demand is equal to the elasticity of substitution. It follows that where two factors are employed, a small increase in the supply of one will raise or lower the demand for the other according as the elasticity of demand is greater or less than the elasticity of substitution.

§ 6. I now proceed to the case where three factors are employed. In doing this I shall define elasticity of substitution, significance, and stickiness in amount, and obtain a formula giving η_{yx} in terms of elasticities of substitution and the significance and stickiness in amount of the third factor. By assuming all these quantities to be positive, I shall deduce elementary rules for establishing the direction of, and limits to, the error involved by neglecting all the influences on η_{yx}, except the relevant elasticity of substitution. I shall apply these rules to an imaginary example, and calculate limits within which η_{yx} must lie. Finally, I shall examine theoretical issues involved in estimating elasticities of substitution, stickiness in amount and significance, and discuss the conditions under which these quantities can be negative.

§ 7. I define elasticity of substitution of y for x to be :

" The proportional change in the total product F divided by the proportional change in Y, the demand price, in terms of product, of one factor y, when the amount of the factor x is varied, and the amounts of the factors y and z are held constant."

This definition refers to small changes taking place over the

period under consideration. The definition may be expressed symbolically—

$$\text{Elasticity of substitution of } y \text{ for } x = \sigma_{yx} = \frac{EF}{EY_{yz\ \text{const.}}}.$$

Consider the case in which the amount of the third factor is fixed; the critical value of the elasticity of demand for product, η_{yx}, must again be equal to elasticity of substitution of y for x. The proof is the same as in the case where there were only two factors employed.

The proof and the result could not, however, be extended to cover the case where the amount of the third factor might vary, unless the definition of elasticity of substitution were adapted to the form: "The proportional change in the total product F divided by the proportional change in Y, the demand price in terms of product of one factor y when the amount of the factor x is varied, the amount of the factor y is held fixed and the amount of the factor z is left to vary according to the law of supply and demand." To that adaptation there is a serious objection. By extending the definition of elasticity of substitution of y for x, in such a way as to allow for variations according to the law of supply and demand in the amount of the third factor, we should be allowing the other influences to creep in under the guise of the elasticity of substitution. The concept so defined would be a hotch-potch, composed of elasticity of supply of the third factor, its elasticities of substitution and other irrelevant influences. It would be little easier to estimate or to analyse than η_{yx} itself: in the language of Professor Pigou, it might be said, that to frame such a definition of elasticity of substitution would be to construct an unnecessary bridge.[1]

Accordingly, I reject the suggested adaptations to the definition of elasticity of substitution of y for x given above and retain the original form. This entails our problem being approached from a new angle.

I define elasticities of substitution σ_{yz} and σ_{zx} of y for z and of z for x in the same manner.

[1] See A. C. Pigou, ECONOMIC JOURNAL, June 1934, p. 240. It must be conceded, indeed, that even in the case where two factors are employed elasticity of substitution as originally defined may be influenced by circumstances such as the degree of competition between firms within the industry, in the sale of product and in the hiring of factors, or by the existence of external economies or diseconomies. To this there need be less objection, since these influences are so closely bound up with any substitution of one factor for another in an industry. But the elasticity of supply of a third factor, and the technical ease with which a third factor can be substituted are irrelevant considerations which should not appear as part of the elasticity of substitution between two factors.

I define the significance of the third factor z to be "proportional change in total product F divided by the proportional change in the amount of z when the amount of the factor z only is varied."

This definition may be expressed symbolically :

$$\text{Significance of } z = \frac{1}{i_z} = \frac{EF}{Ez_{xy\,\text{const.}}}.$$

This quantity will bear a close relation to the ratio of total sales proceeds to total wages of the factor z.

I define "stickiness in amount" of the factor z to be :

"the reciprocal of elasticity of supply of z + the reciprocal of elasticity of demand, in terms of product, for z, where the amounts of the other factors are fixed."

This definition may be expressed symbolically :

$$\text{Stickiness in amount of } z = j_z = \frac{1}{s_z} - \frac{eZ}{ez}$$

where s_z is elasticity of supply of z, and Z is its demand price in terms of product.

§ 8. Under the simplified conditions which we are considering, η_{yx} the critical value of elasticity of demand depends only on the elasticities of substitution σ_{yx}, σ_{yz} and σ_{zx}, and the significance, $1/i_z$, and stickiness in amount, j_z, of the third factor.

The formula expressing η_{yx} in terms of $\sigma_{yx}\sigma_{yz}\sigma_{zx}i_zj_z$ is cumbrous, but it can be wielded so as to provide interesting results in certain cases.

The formula is

$$\sigma_{yx} - \eta_{yx} = \frac{(\sigma_{yx} - \sigma_{yz})(\sigma_{yx} - \sigma_{zx})}{\sigma_{yx} + i_zj_z\sigma_{yz}\sigma_{zx}} \quad . \quad . \quad . \quad (1)$$

The proof of the formula is as follows :—

Suppose that three factors only are employed in an industry in amounts xyz and let $F(xyz)$ be the amount of their product, and $p(F)$ be its demand price. Let $X(xyz)$, $Y(xyz)$ and $Z(xyz)$ be the demand prices in terms of product, of the factors x, y and z. Let $\xi(z)$ be the (money) supply price of z, and let s_z be its elasticity of supply.

Suppose that the elasticity of demand for product, η, has the critical value η_{yx}. This means that a small proportional change Ex in the amount of the factor x will leave unaltered y, the amount, and pY, the demand price, of the factor y, and that the demand price, pZ, will remain equal to the supply price ξ of the factor z.

From this knowledge we can deduce, by mathematics, the formula (1). For the knowledge can be expressed:

$$Ex \neq 0,\ Ey = 0,\ E(pY) = 0,\ E(pZ) = E\xi,\ \eta = \eta_{yx} \quad . \quad \text{i}$$

also, by identity type V, $\eta = -\dfrac{EF}{Ep},\ s_z = \dfrac{Ez}{E\xi} \quad . \quad . \quad . \quad . \quad \text{ii}$

(these equations express the definitions of elasticity of demand and elasticity of supply).

From equations i, by identity type I,

$$Ep + EY = 0,\ Ep + EZ = E\xi,\ \eta = \eta_{yx}$$

so that by equations ii,

$$-\frac{1}{\eta_{yx}}EF + EY = 0 \qquad -\frac{1}{\eta_{yx}}EF + EZ = \frac{1}{s_z}E\xi$$

whence, since $Ey = 0$, we obtain by identity type IV,

$$\left\{-\frac{1}{\eta_{yx}}\frac{eF}{ex} + \frac{eY}{ex}\right\}Ex + \left\{-\frac{1}{\eta_{yx}}\frac{eF}{ez} + \frac{eY}{ez}\right\}Ez = 0$$

and

$$\left\{-\frac{1}{\eta_{yx}}\frac{eF}{ex} + \frac{eZ}{ex}\right\}Ex + \left\{-\frac{1}{\eta_{yx}}\frac{eF}{ez} + \frac{eZ}{ez} - \frac{1}{s_z}\right\}Ez = 0.$$

For $\dfrac{eZ}{ez} - \dfrac{1}{s_z}$ we may write $-j_z$, where j_z is the stickiness in amount of the third factor z. Then since $Ex \neq 0$,

$$\begin{vmatrix} \dfrac{1}{\eta_{yx}}\dfrac{eF}{ex} - \dfrac{eY}{ex} & \dfrac{1}{\eta_{yx}}\dfrac{eF}{ez} - \dfrac{eY}{ez} \\ \dfrac{1}{\eta_{yx}}\dfrac{eF}{ex} - \dfrac{eZ}{ex} & \dfrac{1}{\eta_{yx}}\dfrac{eF}{ez} + j_z \end{vmatrix} = 0.$$

Dividing the first column by $\dfrac{eF}{ex}$, and the second column by $\dfrac{eF}{ez}$, we obtain, by virtue of identities of type III,

$$\begin{vmatrix} \dfrac{1}{\eta_{yx}} - \dfrac{EY}{EF_{yz\ \text{const.}}} & \dfrac{1}{\eta_{yx}} - \dfrac{EY}{EF_{xy\ \text{const.}}} \\ \dfrac{1}{\eta_{yx}} - \dfrac{EZ}{EF_{yz\ \text{const.}}} & \dfrac{1}{\eta_{yx}} + i_z j_z \end{vmatrix} = 0$$

since the significance of z, $1/i_z$, is defined so that $\dfrac{1}{i_z} = \dfrac{eF}{ez}$. Also by definition,

$$\sigma_{yx} = \frac{EF}{EY_{yz\ \text{const.}}},\ \sigma_{yz} = \frac{EF}{EY_{xy\ \text{const.}}},\ \sigma_{zx} = \frac{EF}{EZ_{yz\ \text{const.}}}.$$

Hence

$$\begin{vmatrix} \dfrac{1}{\eta_{yx}} - \dfrac{1}{\sigma_{yx}} & \dfrac{1}{\eta_{yx}} - \dfrac{1}{\sigma_{yz}} \\ \dfrac{1}{\eta_{yx}} - \dfrac{1}{\sigma_{zx}} & \dfrac{1}{\eta_{yx}} + \dot{i}_z\dot{j}_z \end{vmatrix} = 0$$

which may be manipulated into the form

$$\begin{vmatrix} \sigma_{yx} - \eta_{yx} & \sigma_{yx} - \sigma_{yz} \\ \sigma_{yx} - \sigma_{zx} & \sigma_{yx} + \dot{i}_z\dot{j}_z\sigma_{yz}\sigma_{zx} \end{vmatrix} = 0$$

which means

$$\sigma_{yx} - \eta_{yx} = \frac{(\sigma_{yx} - \sigma_{yz})(\sigma_{yx} - \sigma_{zx})}{\sigma_{yx} + \dot{i}_z\dot{j}_z\sigma_{yz}\sigma_{zx}} \quad . \quad . \quad . \quad (1)$$

This is the equation which we set out to prove.

§ 9. Let us now suppose that $\sigma_{yx}, \sigma_{zx}, \sigma_{yz}, \dot{i}_z, \dot{j}_z$ are all positive (the significance of this assumption will be discussed later). Then equation (1) may be reduced to the form

$$\eta_{yx} = \frac{A\sigma_{yx} - B}{C\sigma_{yx} + D}$$

where A B C D are all positive.

From this equation the following result can be deduced.

Rule 1. For given positive values of the other coefficients, η_{yx} will be greater the greater the (positive) value of elasticity of substitution of y for x.

Rule 2. It can be seen directly from equation (1) that η_{yx} will be greater or less than σ_{yx} according as σ_{yx} does or does not lie between σ_{yz} and σ_{zx}.

To estimate the magnitude of the error between the values of η_{yx} and σ_{yx} it is convenient to reduce equation (1) to the form

$$\frac{\sigma_{yx} - \eta_{yx}}{\sigma_{yx}} = \frac{\sigma_{yx} - \sigma_{yz}}{\sigma_{yx}} \cdot \frac{\sigma_{yx} - \sigma_{zx}}{\sigma_{yx}} \div \left\{1 + \frac{\dot{i}_z\dot{j}_z\sigma_{yz}\sigma_{zx}}{\sigma_{yx}}\right\}$$

which means that:

Rule 3. The proportional error of η_{yx} from σ_{yx} the elasticity of substitution of y for x, is less than the product of the proportional errors from σ_{yx} of the two other elasticities of substitution, by an amount dependent on the significance and stickiness in amount of the third factor. It is obvious from formula 2 that the error will be the less the less significant and the stickier in amount is the third factor.

§ 10. These rules would enable us to determine limits within which η_{yx} must lie provided that we could form rough estimates of the elasticities of substitution, and very rough estimates of the significance and stickiness of amount of the third factor.

Suppose, for instance, that we have formed the following estimates of the elasticities of substitution,

$$2 < \sigma_{yx} < 3,\ 0{\cdot}5 < \sigma_{zx} < 2,\ 1 < \sigma_{yz} < 2$$

and had estimated limits to the significance and stickiness in amount of the third factor,

$$\frac{1}{i_z} < \frac{1}{2} \qquad 1 < j_z,$$

we could tell by Rule 2 that η_{yx} was less than the elasticity of substitution of y for x and must be less than 3.

By Rule 1 we could tell that η_{yx} would be least when $\sigma_{yx} = 2$, and by Rule 3 we could tell that the proportional error in this case would be less than $0{\cdot}375 = 0{\cdot}75 \times 0{\cdot}5$ (the product of the proportional errors of σ_{yz} and σ_{zx} from σ_{yx}). This establishes limits for η_{yx} . . . $1{\cdot}25 < \eta_{yx} < 3$. Moreover, by formula 2 the maximum proportional error is less than 0·375 in the ratio $1 + i_z j_z \frac{\sigma_{yz}\sigma_{zx}}{\sigma_{yx}}$ (*i.e.* at least in the ratio 1·5 taking the smallest values of i_z and j_z). Thus the maximum proportional error of η_{yx} from σ_{yx} if $\sigma_{yx} = 2$ is 0·25. This narrows the limits for η_{yx} to the values $1{\cdot}5 < \eta_{yx} < 3$.

In order to determine in this manner limits within which η_{yx} must lie, it is only necessary to form rough estimates of the elasticities of substitution, and to know that these and the stickiness in amount of the third factor are positive. We have seen that the limits for η_{yx} may be narrowed, if we can form rough estimates, also, of the significance and stickiness in amount of the third factor.

§ 11. Certain theoretical issues arise in connection with estimating and interpreting elasticity of substitution, significance and stickiness in amount. These may be considered in turn.

Elasticity of substitution may be negative. This will only be the case if the degree of rivalry between the two factors outweighs the degree of co-operation between them, in the sense that a small increase in the supply of one factor alone will actually decrease the marginal productivity of the other factor. Thus, we have the paradox that between perfect substitutes, elasticity of substitution is likely to be negative, so that a negative value of elasticity of substitution must be regarded, not as less than zero, but as greater than any positive value, in fact as "greater than plus infinity." This violent paradox arises from the fact that when the reciprocal of elasticity of substitution is decreased

continuously from a small positive value, through zero, to a small negative value, elasticity of substitution itself changes from a large positive value through plus infinity to a large negative value. The same difficulty arises in connection with elasticity of supply, where a negative value may mean, not extremely inelastic supply, but an elasticity of supply " greater than plus infinity," in the sense that a larger amount will be supplied at a smaller price.

If elasticity of substitution of y for x is negative, the critical value of elasticity of demand will be large, and may even itself be negative (greater than plus infinity) if the third factor is sticky in amount and of small significance.

In the absence of further information regarding two factors not very nearly related technically (*i.e.* whose amounts can be very easily varied independently, but which are in no measure direct substitutes, the one for the other), the most plausible estimate of elasticity of substitution is unity. For in this case, when the supply of one factor is increased, the efficiency of units of the other factor on the margin of employment is likely to be increased in about the same ratio as the efficiency of all units of that factor in employment. The average productivity of the factor is then likely to be increased in about the same ratio as its demand price, in terms of product. But average productivity must change in the same ratio as total product F : hence, the proportional change in the total product F must be roughly equal to the proportional change in the demand price in terms of product of the second factor. It follows that a plausible estimate of elasticity of substitution in such a case is unity.

Although this is the most plausible estimate in such a case, it is a very unreliable estimate. There is merely a presumption that where a third factor has no very close technical relationship (in the above sense) with the two others, its elasticity of substitution with them will lie somewhere near unity; how near, it is indeed difficult to establish by general reasoning: particular cases will require particular study.

An estimate of $1/i_z$, the significance of z, may be made by dividing an estimate of the proportion of sales proceeds going as wages to the factor z, by an estimate of the ratio of the wage rate ξ of z to the value of its marginal product to the industry.[1]

This ratio $\left(\xi \div p\dfrac{\partial F}{\partial z}\right)$ may be estimated by calculating the

[1] For $i_z = 1 \div \dfrac{eF}{ez} = \dfrac{F}{z} \div \dfrac{\partial F}{\partial z} = \dfrac{pF}{z\xi}\dfrac{Z}{\dfrac{\partial F}{\partial z}}$ since $pZ = \xi$.

wage rate of z as a fraction of its marginal productivity to the firm (this fraction should be $\dfrac{1-\frac{1}{\eta'}}{1+\frac{1}{s_z'}}$,[1] where η' is elasticity of demand to the individual firm and s_z' is elasticity of supply of z to the individual firm), and correcting for any divergence between $\frac{\partial F}{\partial z}$ and "marginal productivity to the individual firm," due to external economies or the possibility of entry of new firms to the industry.[2]

Where there is a high degree of competition within the industry in the sale of product and hiring of the factor z, and where there are no substantial external economies, the wage of z should form a substantial fraction of its marginal productivity to the industry and the significance $1/i_z$ will be nearly equal to the ratio of the total wages of z to total sales proceeds. The significance of z, $1/i_z$, will in general have a positive value.

An estimate of j_z, the stickiness in amount of the third factor, involves estimates both of s_z, the elasticity of supply of z, and of $-\dfrac{Ez}{EZ_{xy\ \text{const.}}}$, the elasticity of demand, in terms of product for z, where the amounts of the other factors are held fixed. $-\dfrac{Ez}{EZ_{xy\ \text{const.}}}$ will usually be small and positive, since any increase in the amount used in the factor z when unaccompanied by any increase in the amounts of other factors is likely to decrease considerably the

[1] Let F' denote the product of a firm, and similarly let the addition of a dash to any symbol denote that the symbol refers to the individual firm instead of to the industry. Then in considering what amount z' to use of the factor z, with given amounts $x'y'$ of the other factors, the entrepreneur will maximise $p'F' - \xi'z'$ so that for a small change in z':

$$\Delta\{p'F'\} = \Delta\{\xi'z'\} \therefore p'F'E\{p'F'\} = \xi'z'E\{\xi'z'\}$$

$$\therefore p'F'(Ep' + EF') = \xi'z'(E\xi' + Ez')$$

$$\therefore p'F'\left(1 + \frac{Ep'}{EF'}\right)\frac{EF'}{Ez'} = \xi'z'\left(1 + \frac{E\xi'}{Ez'}\right)$$

$$\therefore \left(1 - \frac{1}{\eta'}\right)p'z'\frac{\partial F'}{\partial z'} = \left(1 + \frac{1}{s_z'}\right)\xi'z'$$

$$\therefore \xi \div p\frac{\partial F'}{\partial z'} = \frac{1-\frac{1}{\eta'}}{1+\frac{1}{s_z'}}.$$

[2] The fact that the number of firms may vary is likely to make $\frac{\partial F}{\partial z}$ smaller, and the existence of external economies is likely to make $\frac{\partial F}{\partial z}$ larger than it would otherwise have been.

marginal efficiency of z. The elasticity of supply of z is also likely to be positive, so that usually j_z will be positive and fairly large.

It is, however, possible for j_z, the stickiness in amount of z, to be *negative in particular circumstances. For instance,* stickiness in the amount of labour may be negative in Malay, where a decline in the demand for rubber may decrease wages and increase the amount of work done. In most cases, however, the elasticity of supply of the third factor will be positive, and the stickiness in amount of the third factor will be greater than the reciprocal of its elasticity of supply. Where stickiness in the amount of the third factor is negative η_{yx} must be estimated direct from the formula (1), for in this case the Rules 1, 2 and 3 become invalid.

§ 12. Under certain circumstances, η_{yx} may have a negative value, and this should be interpreted as a value "greater than plus infinity." When η_{yx} has a value "greater than plus infinity," it means that unless the demand curve for the industry's product is upward sloping to the right, an increase in the amount of the factor x must decrease the demand in terms of money for the factor y.

The value of η_{yx} cannot be "greater than plus infinity" if all the five quantities $\sigma_{yx}\sigma_{yz}\sigma_{zx}i_zj_z$ are positive. But if one of them is negative, η_{yx} may be greater than infinity, and whether it will be so depends on the relationship of the elasticity of substitution of y for x to the product of the four other quantities (namely, the elasticities of substitution with the third factor, the reciprocal of its significance and its stickiness in amount).

We can see this by expressing equation (1) in the form

$$\frac{1}{\eta_{yx}}=\frac{\dfrac{1}{\sigma_{yx}}+\dfrac{1}{i_zj_z\sigma_{yz}\sigma_{zx}}}{1+\dfrac{1}{i_zj_z}\left(\dfrac{1}{\sigma_{zx}}+\dfrac{1}{\sigma_{yz}}-\dfrac{1}{\sigma_{yx}}\right)}.$$

η_{yx} will be greater than plus infinity if $\dfrac{1}{\sigma_{yx}}+\dfrac{1}{P}<0$ where P is the product of the four other quantities, $\sigma_{yz}\sigma_{zx}i_zj_z$. There are thus three cases in which η_{yx} will be greater than plus infinity :

(1) elasticity of substitution of y for x positive, but the product of the four other quantities negative and smaller than it in magnitude;

(2) elasticity of substitution of y for x negative and smaller in magnitude than the product of the other four quantities;

(3) elasticity of substitution of y for x negative and also the product of the other four quantities negative.

In the particular case where the elasticity of demand for the industry's product is infinite, an increase in the amount of the factor x will lower the demand for the factor y in these three cases, and in these cases only. This result is only applicable to the case of a closed community if the product of that community is homogeneous.

§ 13. There are considerable difficulties in extending the above analysis to the general case where n factors are employed in an industry, ($n > 3$), since equation (1) then takes the complicated form

$$\eta_{yx} = \frac{\sum_{r=1}^{n-1} \sum_{s=1}^{n-1} (-1)^{r+s} a_{rs}}{A} \quad [1]$$

where A is the determinant

$$\begin{vmatrix} \frac{1}{\sigma_{yx}} & \frac{1}{\sigma_{yz}} & \frac{1}{\sigma_{yt}} & \cdots & \frac{1}{\sigma_{yw}} \\ \frac{1}{\sigma_{zx}} & -\dot{i}_z\dot{j}_z & \frac{1}{\sigma_{zt}} & \cdots & \frac{1}{\sigma_{\xi w}} \\ \frac{1}{\sigma_{tx}} & \frac{1}{\sigma_{tz}} & -\dot{i}_t\dot{j}_t & \cdots & \frac{1}{\sigma_{tw}} \\ \vdots & \vdots & \vdots & & \vdots \\ \frac{1}{\sigma_{wx}} & \frac{1}{\sigma_{wz}} & \frac{1}{\sigma_{wt}} & \cdots & -\dot{i}_w\dot{j}_w \end{vmatrix}$$

and where

$$\begin{matrix} a_{11} & a_{12} & \cdots & a_{1\,n-1} \\ \vdots & & & \vdots \\ a_{n-1,\,1} & a_{n-1,\,2} & \cdots & a_{n-1,\,n-1} \end{matrix}$$

are the co-factors of the $(n-1)^2$ elements of this determinant, and the notation of i's and j's is extended to the new factors.

Since any estimate of η_{yx} must involve a wide margin of error, it is probably wiser to treat all other factors as a single third factor z and to allow a margin of error correspondingly wider.[2]

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[1] The proof of this formula is exactly similar to the proof given for the case of three factors.

[2] Although the case where 4 factors are employed might be analysed in order to discover the effects of heterogeneity in the third factor.

A NOTE ON THE EQUILIBRIUM RATE OF INTEREST

MONETARY theory has concerned itself recently with two tasks—to lay bare in an existing situation the forces making for disharmony, and to provide some conception of the nature and the extent of disequilibrium at a given time. The saving-investment relationship of Mr. Keynes has been successful in helping towards these ends; it rests upon a classification attracting attention to the significant movements of a changing situation, and mirrors the results of these movements in the relationship inherent in the classification. Nevertheless, certain objections can be urged: for example, that the classification is based upon the concept of a normal *aggregate* of profits, while it may be doubted whether the normalcy of profits can be referred solely to their extent without question as to their distribution.[1] Again, the relationship only takes notice of a disequilibrium when its effects have been felt upon "profits"—it takes no account of "forced" investment (in stocks) or "induced" disinvestment (liquidation), the importance of which can be shown by Mr. Hawtrey's analysis.[2]

The objection more closely connected with the subject-matter of this note is that the relation does not summarise the causes of disequilibrium; it is the result of a classification enabling those causes to be appreciated.[3] Maybe this should be thought unimportant; yet the following considerations arise. Disequilibrium is explained (or described) in terms of concepts that have satisfactory meaning only when referred to equilibrium conditions, and thus disequilibrium is not satisfactorily treated in terms of its own circumstances.[4]

To explain disequilibrium in terms of a discrepancy between the equilibrium and the market rates of interest promises an

[1] The definitiveness of the relationship depends upon the definitiveness of the classification.

[2] "Consumers' Income and Outlay," *The Manchester School*, Vol. II, No. 1; *The Art of Central Banking*, pp. 84–115.

[3] Cf. Hawtrey, *The Art of Central Banking*, pp. 332–411.

[4] And the adoption of Mr. Keynes' classification precludes concepts of saving and investment—following Mr. Robertson (ECONOMIC JOURNAL, September 1933)—which relate them to the causes of disequilibrium. Perhaps before this can be done we shall have to realise that the value of output is a magnitude of comparative unimportance to the monetary theorist.

alternative approach that may be free from such difficulties. The relationship of an existing disequilibrium to an existing discrepancy between these rates would provide a self-contained explanation of the causation as well as of the extent of disequilibrium. It is clear that a concept of this nature could be capable of resolving difficulties that have not satisfactorily been met along more accustomed lines.

It is the nature of an equilibrium rate of interest around which the problem centres, just as it is the nature of saving and investment upon which it is difficult to decide. It is easy enough to see the use to which a satisfactory concept could be put: the difficulty is to give real meaning to something one deems it desirable to identify.

To this end, various definitions of the equilibrium rate of interest have been attempted. Wicksell's relation of the normal and equilibrium rates to the value of money has been rejected, because intrinsically it is no more than a restatement of the problem. Mises, in his *Theory of Money and Credit*, offers nothing that satisfactorily fills the place of the rejected definition of Wicksell. He appears to agree with Wicksell that a distinction must be drawn between the Money Rate of Interest and the Natural Rate or "the rate . . . that would be determined by supply and demand if actual capital goods were lent without the mediation of money." [1] He further identifies the natural rate with "the rate determined at the time by the whole economic situation." [2] On the former, Professor Hayek makes the following observation: "If this . . . definition were correct, Dr. G. Halm would be right in raising the objection that a uniform rate of interest could develop only in a money economy." [3] For my own part, the second is quite unhelpful.

Mr. Meade offers a definition that gives a clearer guide to the meaning of the concept. "A neutral money system is one which simply interprets the decisions of individuals, of companies or of the Government without, by its own action or inaction, making the effects of such decisions different from what they would have been in a non-monetary economy. A neutral money system is then, on the assumption of a constant population, one which maintains Final Incomes (= value of output) constant. We shall see later how by lowering the rate of interest the banking system can increase and by raising the rate can decrease Final Incomes; the equilibrium rate of interest,

[1] *The Theory of Money and Credit*, p. 355. [2] *Op. cit.*, p. 359.
[3] *Monetary Theory and the Trade Cycle*, p. 210.

again on our assumption of a constant population, is defined as that rate which keeps Final Incomes constant." [1]

Within this quotation two forms of definition are implied: the first sets up as a criterion for the operation of a monetary system the operation of a non-monetary system; the second asserts that a neutral system maintains constant the money value of output—the equilibrium rate being the rate that satisfies these conditions separately or severally. It is likely that Mr. Meade has in mind in the first part of the quotation the necessity in a non-monetary economy for a reduction in consumption to result in investment. In such an economy, a decision to save is not only a decision to invest; [2] it constitutes investment. But more is implied than this identity; namely, that the "interpretations of decisions" by a monetary economy can be the same as by a non-monetary economy. In general, there is no presumption that this is so.[3] If a definition is to be formulated along these lines, it is necessary that the variety of decisions to be commonly interpreted should be indicated. If we take the two definitions together, constancy in Final Incomes is not a sufficient condition to ensure that the interpretation of decisions shall not be coloured by the presence of a monetary economy. If the second part of the definition is allowed to stand by itself, I do not feel that the concept we desire is brought very much nearer. Essentially, it would appear, the condition of constancy in Final Incomes is to ensure that a decision to economise should find expression in investment: the provision that an increasing population shall be accompanied by expanding money incomes and Final Incomes is presumably to meet the difficulties of building money balances and circulating capital. If this line of inquiry is carried forward, it appears largely a matter of assumptions whether money incomes and Final Incomes should be expanded or remain constant.[4] A system must be judged neutral or active not according to some *a priori* criterion, but according to its appropriate relation with the behaviour of people in a monetary economy.[5] If we admit that the value of output should be altered with alterations in population, it is not easy to see why Final Incomes should not vary with changes in the age distribution of population, with alterations in the hours of work,

[1] *The Rate of Interest in a Progressive State*, p. 11.

[2] In a money economy, this is not so in other than a mystical sense.

[3] Cf. Harrod, *Economica*, August, 1934, pp. 286–299. Also Hawtrey, *op. cit.*, pp. 303–32.

[4] Cf. Hawtrey, *op. cit.*, p. 303 ff. Money and Index-Numbers.

[5] Cf. Robertson, *Economica*, November, 1934, p. 474.

and in the intensity of work, and with variations in the *quanta* of other factors of production. Is there anything in the nature of changing population itself that identifies it as peculiar in the demands it makes upon monetary policy?

In relation to this conception of neutrality and of the equilibrium rate, it would appear that the level of Final Incomes is unimportant provided that no alteration is induced by some such disharmony as is indicated by an inequality between Mr. Keynes' saving and investment.[1] If this is so, this interpretation of the equilibrium rate of interest is identified as closely akin to that rate existing when saving does equal investment (with Mr. Keynes' definitions). I do not see that the concept can be applied directly to illuminate conditions of disequilibrium.[2]

Finally, must be considered Professor Hayek's concept, which has been used, I think, avowedly to throw light upon the monetary causes and the nature of disequilibrium. Professor Hayek says: "Wicksell . . . correctly defined (the natural rate of interest) as 'that rate at which the demand for loan capital just equals the supply of savings.'"[3] And, again, "The 'natural' or equilibrium rate of interest which would exclude all demands for capital which exceed the supply of real capital is incapable of ascertainment—'Real capital' stands here as the only short . . . expression which I can find for that part of the total money stream which is available for the purchase of producers' goods, and which is composed of the regular receipts of the turnover of the existing producers' goods . . . plus new savings."[4]

On the basis of recent discussions on monetary theory, the above cannot be judged definitions; for they leave the reader to interpret for himself the meaning of "savings" and "new savings": and, consequently, they do not allow him fully to appreciate the nature of Professor Hayek's concept.[5] They merely indicate that the existence of a monetary, and more especially of a credit system introduces a degree of arbitrariness in the level of interest rates—an arbitrariness that has been appreciated during many years by Exchequers. Consequently, the imper-

[1] See, however, *The Rate of Interest in a Progressive State*, pp. 48–51.

[2] This is not to suggest that Mr. Meade designed his concept for such a purpose.

[3] *Monetary Theory and the Trade Cycle*, chap. v. para. iv.

[4] *Prices and Production*, p. 108 and *n*.

[5] Cf. ECONOMIC JOURNAL, September and December, 1933: "Saving and Hoarding" by D. H. Robertson, and by J. M. Keynes, R. G. Hawtrey and D. H. Robertson.

fection in definition of the equilibrium rate of interest does make unsatisfactory an explanation of disharmony couched in terms of a divergence between the market and equilibrium rates of interest.

Two species of difficulty arise: the one connected with the elucidation of the concept—following imperfect comprehension of the meaning of the definition—the other with the consequences of its application.

The equilibrium rate of interest is identified not only in conditions of equilibrium, however these conditions may be defined, but also in the various phases of industrial fluctuation.[1] Evidently, then, we must imagine that during the "boom" period the situation is characterised, among other things, by the market rate of interest falling below the equilibrium rate. What must we understand by this equilibrium rate? It is difficult to identify it with the rate which, under different circumstances, would equate the demand for and supply of "real" capital were the system in equilibrium. For it appears certain that in times of activity the market rate will be substantially above this level, just as the depth of depression is accompanied by market rates substantially below it. If we can imagine that the closest approximation between the two rates will be given when industry is riding its most even keel, we are surely right in accepting this as true. Although Professor Hayek's definition becomes most explicit under equilibrium conditions, this interpretation would explain "boom" by conceiving equilibrium rate in defect of market rate, and would, presumably, necessitate the conclusion that the period of production shrinks in times of more than usual activity. Clearly, this would seriously misconstrue Professor Hayek's meaning.

The following offers itself as an alternative. We can imagine the equilibrium rate to be that which would *in the existing circumstances* equate the demand to the supply of "real" capital.[2]

[1] Cf. *Prices and Production*, Lecture III, p. 65, quotation from Mises: "The first effect of the increase of productive activity, initiated by the policy of the banks to lend below the natural rate of interest is . . . to raise the prices of producers' goods while the prices of consumers' goods rise only moderately. . . . But soon a reverse movement sets in: the prices of consumers' goods rise and prices of producers' goods fall, *i.e.* the loan rate rises and approaches again the natural rate of interest." *Theorie des Geldes und der Umlaufsmittel*, 1912, p. 431.

Also p. 80: "Let us assume that for some time, perhaps a year or two, the banks, by keeping their rate of interest below the equilibrium rate, have expanded credit, and now find themselves compelled to stop further expansion."

[2] Failing a suitable definition for this term, I am thinking of the supply as excluding at least some of the funds that owe their existence to a liberal bank

In conditions of "boom," therefore, this equilibrium rate would lie above market rate, which, in its turn, would lie above that rate of interest appropriate to and maintaining equilibrium. The difficulty is to think of this rate as an equilibrium rate. The rate must necessarily be largely influenced by elements of disequilibrium inherent in the circumstances of the time.[1] As a corollary, the equilibrium rate would be a dependent function of the market rate—the lower the market rate, the higher must we imagine the equilibrium rate to be, and *vice versa*. Even could we clarify our notions to give full meaning to such a concept, it would, I think, be misleading to recognise this conceptual rate as our equilibrium rate. For, in the first place, in any given situation, the rate could only be one rate out of many possible equilibrium rates, while, in the second place, the establishment of the rate would not result in equilibrium. Nor is there any reason to suppose that the rate would survive into a position of complete monetary and economic equilibrium. It could be an equilibrium rate only in name.

The enunciation of a satisfactory definition is, then, not the only problem confronting us.

We turn now to Professor Hayek's application of the equilibrium rate of interest. The theory of the trade cycle is based upon this elusive concept: how far can it be upheld in the light of the difficulties that appear to present themselves? Essentially, the suggestion is that when market rate falls below equilibrium rate, industry is tempted to adopt a structure that cannot be held when market rate again rises, but which could be maintained were that market rate maintained.

The real changes in industrial structure that Professor Hayek seeks to connect with a divergence between market and equilibrium rates can be given a different complexion if we adopt an approach free from this hypothesis. It may be thought that the alternative picture is equally in accord with the facts as we

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policy. For the purpose of this argument, it is sufficient to know that the "real" supply is less than the "actual" supply in times of "boom," and in times of depression more.

[1] Cf. Mises, *op. cit.*, p. 361 : ". . . an increase of fiduciary media brings . . . a redistribution of wealth. . . . So far as these factors enter into consideration, an increase of fiduciary media does cause a diminution of even the natural rate of interest, as we could show if it were necessary." (This gives us licence to think of an equilibrium rate consistent only with disequilibrium conditions.)

Also Hayek, *op. cit.*, p. 80 : "The rise of the prices of consumers' goods will offer prospects of temporary profits to entrepreneurs. They will be the more ready to borrow at the prevailing rate of interest."

know them. If this is so, then our understanding of the concept cannot rest solely upon its explanatory value.[1]

In the first place, we may explain the initial movement towards "boom" in terms of an optimistic tendency towards increased stocks, a rise in the equilibrium rate, a disparity between saving and investment or a release of cash by traders towards increased long-term investment, or possibly in terms of a disparate movement of the real rate of wages and the productivity of labour. In all these cases, there will be a tendency for business to become, for the time, more profitable. And, initially, at any rate, the individual trader is not in a position to know that the appearance of things is a deceit. There is, then, provided a motive for the expansion of productive activity. Logically, the only means by which this expansion can be attained is by the use of more "capitalistic" methods—by economising in the use of labour, the factor of natural scarcity. Except in circumstances of depression and unemployment, any other method must be frustrated. But, at the time, the economic system will not force a realisation of this difficulty—as it will do under the conditions generally assumed. The motive for expansion is the incentive for the laying down of new plant, the stocking of plant with raw materials and semi-finished goods, and the expansion of industries benefiting most from these preparatory activities. The more successful these efforts, the greater will appear their chance of profitable exploitation.[2]

It is difficult to believe that the new capital can be appropriate to more normal conditions. In the first place, the existence of abnormal profits will lead to an over-estimation of the extent of profitable production of a given commodity. There is thus the likelihood of undue duplication of plant, and, in addition,

[1] When considering the facts of disequilibrium, the differing experiences of different countries should be taken into consideration. Despite the low yields on equities, the rate of interest in the British Empire and in the U.S.A. was considered high during the recent "boom." But the flow of capital from the well-developed countries to those suffering from capital shortage—a flow consequent in many ways upon "boom" conditions—may have made the time of prosperity in the latter a time of (transient) low interest rates. This may be explained as an under-valuation of risk in times of optimism and an over-valuation in times of pessimism. The sudden changes between popularity and unpopularity of foreign investment are not *necessary* features of industrial fluctuations—though they may constitute aggravations of the basic problem on which we must reckon.

[2] The willingness to continue the purchase of instruments of production, themselves rising in price, can be explained in a variety of ways. But if we wish satisfactorily to explain what happens in actuality, I suggest we must continually be aware of the conditions in which "boom" finds different industries.

the creation of plant to satisfy wants not ranked as sufficiently urgent by the community. The disappearance of excess profits—and, even more, the appearance of depression—will make these activities unprofitable.[1] In the second place, there will be mistakes in costing, as a consequence of the distortion that "boom" promotes. The "boom" gives a misleading view of many openings for profitable investment, and induces, by means of the high interest charges willingly incurred, the economic system, and the banking system, to provide more resources for investment. Thus funds raised on bonds and notes are at the cost of high interest charges. On the other hand, the current real cost of the labour that will, in the future, be needed to work new and extended plant will be abnormally low.[2] There is thus the possibility that plant will be laid down to meet the costing requirements of a period of transition. I think, therefore, that we have to face the possibility of an actual shortening of the period of production.[3] There can, however, be little doubt that to stress too strongly this possibility would be misleading. Technical considerations of company finance make it desirable and the circumstances of the stock market make it propitious to finance expansion largely out of the proceeds of equity issues.[4] For well-discussed reasons, the real cost of employing labour may transiently be higher than the presence of a wage lag would lead one to assume; while the more far-sighted of employers will be aware that the current rate of wages is not only something of an anomaly in the given situation, but also very seriously under-estimates the difficulty that will be experienced in getting a greater labour supply. Again, the catering for a larger market will in itself be a reason for the employment of more roundabout methods, while the under-estimation of risk in "boom" will give technicians the opportunity they seek for the trial of new methods. Thus, for a variety of reasons, the forces arising from economic distortion may meet with obstacles.

[1] The "boom" of 1928–29, in this country, gave many examples of this variety of enterprise which will readily be recalled.

[2] This is not a monetary phenomenon, but is the result of the mechanics of the economic system.

[3] Suspicions of this possibility are not completely dispersed by appeal to experience—at any rate, in this country. Concerns whose finances make necessary a resort to the bond market are, in fact, likely to economise in the use of capital and resort to less "efficient" methods of production.

[4] Whether or not this course is adopted is largely a technical question and has no immediate relevance to the rate of return. An issue of £1 shares at 40*s*. to yield 4 per cent. would be more likely than an issue of shares of the same nominal value at 10*s*. to yield two per cent.

If we continue this line of argument, we should expect that a return to monetary normalcy, were that possible, would uncover an economic situation of some confusion. The rise in real wages would undermine the profits of those concerns which were led away by false expectations. And high interest rates—and the much higher real cost of debenture service and the like—would have the same effect. The result must be to halt and, eventually, reverse the process of investment. This fact, in conjunction with the arrival of a general depression, throws a veil over a real difficulty that we can imagine might confront the economic system.[1] A return to normality might be expected to disclose a technical insufficiency of labour for the operation of the capital amassed in depression. But for other reasons, also, this is not made evident. Some of the "boom" creations do not reach maturity; others are liquidated and put, wholly or in part, out of production. High labour costs force a process which is helped by the fall in interest rates—those firms whose finances are sufficiently strong will substitute capital for labour; while the redistribution of product will be furthered by the liquidation of overhead charges, by schemes of capital reduction, by arrangements with creditors or by funding and conversion operations.[2]

Finally, we might have to admit that a state of over-production existed in certain industries. Over-production, first, in the sense that industries are designed to produce more than society can allow; secondly, that output has been (or more truly, would be) reached in a manner that precludes the possibility of satisfactory remuneration to all factors.[3]

Such an interpretation might very well be rebutted. If, for example, in times of "boom," market rate does stand below equilibrium rate—in some ideal sense—then it may be possible to see an abortive lengthening of the processes of production. But it is not easy to comprehend how so great an upheaval is made to depend on apparently so slight a cause. A fall in market rate will lead to a lengthening of productive processes because production becomes more economical to the entrepreneur in that way. Consequently, it may be supposed, loans

[1] We have to remember, here, that "boom" begins as a recovery eating its way into depression.

[2] These are tendencies easily enough recognisable in the later stages of depression.

[3] Could we imagine production encouraged by a fall in the rate of interest and unaccompanied by easy profits, then the situation would be quite different. Such a happy conclusion is impossible: first, because of a scarcity of capital in normal times, and, secondly, because a "boom" is essentially the embodiment of just such disharmonies.

are raised at low rates—partly on long term, and partly from banks and as credits from associated companies and others. When interest rates move upward once more, long-term loans will still carry the favourable rate, and short-term loans only can be affected immediately. Other things being equal, a process of production that was profitable with a two per cent. interest rate during "boom" will remain profitable at that interest rate under more normal conditions. Thus, the only consequence that one ought to expect appears to be a redirection in the investment of obsolescence allowances. And technical considerations will probably tie a significant proportion of these to specific uses. It is, of course, possible that higher charges on short-term loans will render "long" processes unprofitable. But this is unlikely. Short-term interest rates, it is well known, commonly vary inconsiderably. Moreover, business is likely to be liquid after the flotations of prosperity. In any event, higher charges on borrowings for short term will not generally be a sufficient incentive to jeopardise the productive possibilities of a plant in which large amounts of capital are inevitably tied. They only provide an added reason for redirecting investment as that becomes possible.

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THE IMPORTANCE OF SEASONAL VARIATIONS IN EMPLOYMENT IN THE UNITED KINGDOM

1. The monthly aggregate returns of insured persons unemployed in Great Britain show only a very slight seasonal variation, and comparison with the unemployment figures for, say, Germany or Sweden suggests at first sight that seasonal fluctuations in Great Britain are of almost negligible dimensions. The difference between the percentage out of work in the month of highest unemployment during the year and that in the month of lowest unemployment averaged only 1·8 over the period 1924 to 1929. It seems to be generally held that the absence of any considerable seasonal variations in the aggregate unemployment figures means that these variations contribute only an insignificant element to the general problem of industrial fluctuation and unemployment. Consequently, in discussions of unemployment, seasonal fluctuations are commonly mentioned only to be dismissed, and are analysed only to be "eliminated."

Closer study, however, makes it clear that seasonal fluctuations play a much more prominent part in the economic problems of this country than a cursory inspection of the aggregate unemployment returns might suggest. The slight amplitude of seasonal variation in total employment is due not to the absence of markedly seasonal industries but to the fact that the seasonal patterns so coincide that seasonal industries almost compensate, statistically speaking, for each other; there is not a month in the year in which there are not some industries enjoying their busy seasons, and others undergoing slack periods. Now if there were complete and rapid mobility of labour between industries, if coal-miners applied themselves to selling ice-cream in the summer-time and bricklayers became professional footballers in the winter, then indeed the balance of seasonal unemployment—due to the small net seasonal variation in total employment—could reasonably be disregarded. In fact, however, the extent of seasonal mobility between industries is very slight indeed and "dovetailing"—one of the classical remedies for seasonal unemployment—in practice only takes place on a very small scale.[1]

[1] A distinction should be drawn between the *wholly* seasonal industries, such as work in holiday resorts, or fruit-picking, for which labour is to a considerable extent recruited from among persons otherwise employed during the rest of the

To estimate the real importance of seasonal fluctuation in employment, then, we must start not with the totals for all industry but with the figures for individual industries. We can find first what industries are subject to seasonal variation; next we must find out how much seasonal unemployment there is in each of these industries; then, to reach a total for all industry, we must disregard the statistical accident by which the industries which are busy in summer approximately compensate for those which are slack at that season, and vice versa, and must *add* together the figures of seasonal unemployment obtained in each separate industry. In this method of calculation it is, of course, assumed that there is no mobility at all between industries but, on the other hand, that there is complete mobility within each industry. This latter assumption is clearly untrue, for it often happens that one section of an industry is busy while another branch is slack and yet that no balancing movement of workers takes place. The two partly erroneous assumptions thus tend to correct each other. An "industry," as defined for the purpose of unemployment insurance statistics, is in any case a partly arbitrary classification; while some industries are compact and homogeneous, others cover a large variety of branches, each of which might claim to be regarded as a separate unit.

2. *How many industries are subject to seasonal variation?*

To find the seasonal movement in each industry covered by unemployment insurance the numbers employed monthly were obtained by subtraction of the unemployed from the estimated numbers insured. The percentage deviations of monthly employment from a twelvemonth moving average were then calculated for the period 1924–32 in respect of every industry. This method of extracting the seasonal movement is adopted because it shows most clearly the important *changes* in amplitude and pattern of seasonal fluctuation (if any exists) from year to year;[1] more refined statistical instruments might be employed, but in view of the nature of the material would probably not be justified.

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year, and the partially seasonal industries, such as Building or Motor manufacture, in which the *majority* of workers are employed all the year round, and between which little dovetailing of labour takes place. The former class represent a special, but only a small part of the problem of seasonal unemployment as understood in this article.

[1] This consideration renders the link relative method (used for eliminating seasonals in employment series by the London and Cambridge Service) less useful than the deviations method when the object is to study seasonals in themselves and not to eliminate them.

We may describe as "seasonal" industries those in which the deviations from the moving average show a similar pattern year after year, even if the amplitude of the variation is small. By this test, 63 out of the 100 industries into which the insured

TABLE I.

Amplitude and Pattern of Seasonal Fluctuation in the 26 Principal Seasonal Industries (U.K.).

(1) Industry.	(2) Average number employed, 1932.	(3) Mean of Monthly % Deviations from moving average of Employment, 1924–32.	(4) Range[1] of Seasonal Variation as % of Insured.		(5) Seasonal Peak Month (or Months).	(6) Seasonal Low Month (or Months).
			(a) 1924–32.	(b) 1930–32.		
Coal-mining	687,700	2·7	12·7	16·3	Jan.–Feb.	June–July
Building	609,500	2·7	9·3	8·7	May–June	January
Public Works Contracting	174,000	1·9	10·8	14·0	June	January
Brick, Pipe, Tile, etc. making	68,000	1·3	7·2	4·5	July	January
Shipbuilding and Repairing	67,000	1·4	12·0	15·3	April	October
Motor Vehicles	201,300	1·2	6·0	7·8	April	August
Tram and Bus Service	168,900	0·4	4·7	3·7	July	Jan. and Nov.
Other Road Transport	162,000	0·7	4·2	3·3	June	January
Shipping	105,300	1·6	6·1	6·1	June	Dec.–Jan.
Dock, Harbour, etc. Service	109,400	1·0	6·0	6·0	December	May
Distributive Trades	1,704,900	0·5	4·4	3·5	June–Aug. and December	February
Hotel, Public-house, etc. Service	316,700	2·0	6·9	6·4	June–Aug.	November
Laundries, Dyeing, etc.	135,200	0·4	3·1	2·2	June–July	November
Cotton	368,200	3·1	11·9	19·4	Mar. and Nov.	August
Woollen and Worsted	185,100	2·1	9·7	13·1	Mar.–April and Nov.–Dec.	July
Linen	56,000	3·2	17·6	25·5	February	July
Tailoring	178,500	3·4	10·8	10·8	April–May	January
Dressmaking and Millinery	92,800	1·6	6·4	6·7	May	January
Hats and Caps	30,200	2·1	9·7	12·7	May	November
Boots and Shoes	109,600	0·9	8·8	10·8	April	July
Bread, Biscuits, Cakes, etc.	140,400	0·5	3·0	3·0	July–Aug.	Jan.–Feb.
Other Food Industries	100,500	1·2	5·8	4·5	July and Oct.	January
Drink Industries	93,200	0·3	2·6	2·3	July and Dec.	Jan.–Feb.
Furniture and Upholstery	106,500	0·7	4·9	3·2	Nov.–Dec.	Jan.–Feb.
Electric Cables and Apparatus	102,400	0·6	6·5	5·9	December	Jan.–April
Printing, Publishing and Bookbinding	253,900	0·4	2·8	2·0	July and Dec.	Jan.–Feb.

[1] Average difference between seasonal peak and low.

population is divided by the Ministry of Labour come within the definition of seasonal industries. These 63 included in 1932, 9,834,000 persons, or 77 per cent. of the total insured. In 20 more industries, including an additional 13 per cent. of the insured population, there are distinct signs of seasonal variation, but the seasonal swing is very irregular and the pattern alters appreciably

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from year to year. In short, then, over three-quarters of the insured population are attached to industries subject to a regular and well-defined seasonal movement, while 90 per cent. are attached to industries subject to some degree of seasonal variation.

Some standard of measurement is needed by which the seasonality of different industries can be compared. To obtain such a standard we must first find the normal or average seasonal variation in each industry. This can be arrived at by taking the average deviation from the moving average in each month over the period 1924–32. The extended median (mean of the central three or four values) is probably the best average to take, since it is not influenced by extreme values which may be due to exceptional circumstances and at the same time is not, like the simple median, affected by the accident of the value in any single year.

To measure the amplitude of seasonal fluctuations in each industry, either the mean of the average deviations or their range (*i.e.* the difference between the highest and lowest values) may be used. The mean deviation is probably the most satisfactory measure of variability. In Table I the mean deviation and the range of seasonal variation are given in respect of the largest seasonal industries. Tailoring, if mean deviations are compared, has the greatest amplitude of fluctuation, but Cotton, Linen, Building and Coal-mining are almost equally affected. On the other hand, the Distributive trades and Printing and Publishing, though regularly seasonal, show only very small amplitude of fluctuation.

3. *How important, in the aggregate, are seasonal fluctuations in the economic system?*

As a first answer to this question, we can estimate the total number of persons who experience some unemployment on account of seasonal fluctuation during the year. Let us first assume that at the seasonal peak month in any particular industry there is no seasonal unemployment, and that all unemployment in the year in excess of that at the seasonal peak is to be regarded as "seasonal unemployment."[1] The seasonal peak and trough are defined as the months in which the average deviations of employment from the moving average are respectively greatest and least. In each of the 63 regularly seasonal industries, in each year from 1924 to 1932,[2] we can then find the difference

[1] The trend will affect the figures to some extent, so that the results for any individual year must not be unduly stressed.

[2] 1926 is generally omitted from the calculations.

between the number employed at the seasonal trough and that at the seasonal peak. This figure represents the *maximum* number of persons seasonally unemployed during the year, that is the range of seasonal variation. The figures in respect of all 63 seasonal industries are then added together.

It appears that on this basis from 600,000 to 850,000 persons, or from 5 to 7 per cent. of the insured population, are affected at some time during the year by seasonal unemployment (see Table II). The total varies from year to year, being on the whole higher during the slump years 1930–32 than from 1924–29.

TABLE II.

Total Range of Seasonal Variation (U.K.).

	(1) Sum of Differences in Numbers employed between seasonal peak and seasonal low months in 63 Seasonal Industries.	(2) (1) as % Total Insured Population.
1924 .	603,006	5·2
1925 .	746,551	6·3
1927 .	586,853	4·8
1928 .	596,423	5·0
1929 .	592,360	4·9
1930 .	838,692	6·8
1931 .	856,605	6·7
1932 .	720,230	5·6

The figures above indicate the *maximum* number of persons subject to seasonal unemployment; they are not all unemployed at the same time. To relate seasonal to total unemployment some estimate of the *average* amount of seasonal unemployment must be reached. We may assume again that at the seasonal peak in each industry in each year there is no seasonal unemployment, and that the amount of seasonal unemployment in each month is measured by the extent to which employment falls short of employment at the seasonal peak of the same year. For each industry we can arrive at an estimate of average seasonal unemployment in a particular year by averaging the monthly differences between actual employment and that at the seasonal peak. A total for all industry can be reached by adding together the averages for the individual seasonal industries. These calculations have been made in respect of three years, 1924 and 1928—regarded as "normal" post-war years—and 1932—a depression year. The figures in Table II show that these years are reasonably representative.

The average number of persons seasonally unemployed in

all insured industries, estimated by the method described, was 218,000 in 1924, 237,000 in 1928 and 301,000 in 1932 (see Table III). As percentages of the insured population, these totals represent 1·9, 2·0 and 2·3 per cent. respectively (see Table IV). About 2 per cent. of the insured population, the figure being rather higher in the slump year 1932, are on the average unemployed on account of seasonal fluctuation. The proportion may not appear very considerable; we must relate it, however, to the total unemployment, for we want to discover what contribution seasonal fluctuations make to the general problem of unemployment. Average seasonal unemployment represented 18·1 per cent. of average total unemployment in 1924, 18·3 per cent. in 1928 and 10·6 per cent. in 1932 [1] (Table III).

There is, then, no doubt that seasonal fluctuations account for a very considerable part of the whole problem of unemployment. In the "normal" post-war years 1924 and 1928 almost one in five of the unemployed was out of work on account of seasonal fluctuation in the industry to which he was attached. In the depression year 1932, seasonal unemployment increased, but increased much less than non-seasonal unemployment. The relation between seasonal and cyclical fluctuations will be discussed in more detail later.

TABLE III.

Average Seasonal Unemployment in 63 Seasonal Industries (U.K.).

	1924.	1928.	1932.
1. Average Monthly Seasonal Unemployment	217,800	236,600	301,200
2. Average Monthly Total Unemployment	1,202,800	1,290,200	2,828,650
3. Average Monthly Seasonal Unemployment as % Average Monthly Total Unemployment	18·1	18·3	10·6

TABLE IV.

Seasonal Unemployment as % of Total Insured Population in each Month: 1924, 1928 and 1932 (*U.K.*).

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average for year.
1924	3·4	2·5	1·8	1·5	1·2	1·2	1·5	1·8	1·9	2·1	2·0	1·8	1·9
1928	1·6	1·4	0·7	0·7	1·1	2·1	3·0	2·8	2·5	2·8	3·0	2·2	2·0
1932	2·7	2·4	1·3	1·7	2·2	2·4	3·0	3·2	2·9	2·0	2·3	2·0	2·3

[1] It should be noted that since we have excluded the 20 industries with an irregular but none the less apparent seasonal fluctuation, we are somewhat minimising the real extent of seasonal unemployment.

4. *The Pattern of Seasonal Variation in Employment.*

The general pattern of seasonal fluctuations in employment is as follows:[1] in January most industries are depressed, the only important exceptions being Coal-mining and Cotton. In February winter depression starts to lift and in March the spring boom in the Clothing trades, Motor manufacture, Wool and Shipbuilding begins to become apparent; the Building and Building Material industries do not begin to become really active till about a month later. In June or July a summer recession begins in Clothing, Motors and Textiles, but Building, Road Transport, Food and Drink trades and Hotel Service (all except Building being affected by summer holidays) continue active through the summer. Coal-mining is slack all through the spring and summer. In November and December activity increases in Coal-mining, Textiles and Motor manufacture, and in those industries affected by the Christmas spurt in demand—*e.g.* Musical Instruments, Hosiery, Electric Cables (which includes radio apparatus) and Tobacco. Building and Building Materials, Shipbuilding and Hotel Service, on the other hand, are depressed. The net result of these fluctuations is a low level of total employment in January followed by a considerable spring peak. In late summer comes a second slack season, while in late autumn and at Christmas total employment revives. The direction of the net change from one month to another often varies from year to year, but the fall in employment in January, the rise in February and March, the fall in July and the increase in December are almost invariable in post-war years.

5. *Changes in Seasonal Variation.*

Seasonal variation is not necessarily a stable and permanent characteristic of a series. Alterations in markets, in organisation or policy, in technique, in labour supply or in the general level of unemployment may have marked effects on the seasonal curve. The two most important questions relating to changing seasonal fluctuations in British industry seem to be: (*a*) Is the seasonal element becoming more or less significant? (*b*) What is the relation between seasonal and cyclical fluctuations?

(*a*) A complete answer to the first question can only be given in respect of the post-war period, for which the unemployment insurance returns are available. From 1930, however, the seasonal movement has been affected by the cyclical depression, so that

[1] See Table I for the peak and low months in the principal seasonal industries.

for a study of trend in seasonal variations we are restricted to the years 1924–29.

Study of the seasonal movement in post-war unemployment insurance statistics shows that in no industry is there any significant change in amplitude of seasonal variation from 1924 to 1929. A change, however, has taken place in a less direct way, for certain seasonal industries have declined in importance during the period while others have expanded.

The 63 seasonal industries can be divided into three groups according to amplitude [1] of seasonal variation (see Table V). The first group includes the 15 most seasonal industries, and total average employment in that group declined during 1924–29. The second group includes the industries numbered 16 to 45 in order of seasonality, and total employment in this group has slightly increased. Total employment in the third group, including the 18 least seasonal industries, increased considerably.[2]

TABLE V.

Trend of Seasonal Industries : 1924–29 (*U.K.*).

	Average Employed (000's).		% change. + or − in numbers employed.
	1924.	1929.	
Seasonal Industries 1 to 15 in order of seasonality	3,355	3,190	− 4·9
,, ,, 16 to 45 ,,	1,828	1,856	+ 1·5
,, ,, 46 to 63 ,, ,,	2,660	3,161	+18·8

It appears, then, that while there are no general forces making directly for greater or less stability in seasonal industries, yet the changing balance of seasonal industries within the economic structure is tending indirectly to diminish the importance of seasonal fluctuation.

(*b*) There is evidence of a distinct correlation between cyclical and seasonal fluctuations. We may compare first the range of variation during the slump years 1930–32 with the average for the whole period 1924–32 (Table I). Of the 26 principal seasonal industries, nine (including most of the largest manufacturing industries except Building) show an increased range of variation during the depression and three (not of the largest) show a

[1] Mean deviations from moving average (see Table I, column 3).

[2] The decline in Coal-mining (a highly seasonal industry) and the expansion in Distribution (an industry with only very slight seasonal variation) contribute largely to this result.

marked diminution of seasonality.[1] The tendency for seasonal fluctuation to increase in years of high general unemployment is evident although it does not apply to every industry indiscriminately.

Again, the total number of persons affected by seasonal unemployment (Table II) averaged 6·4 per cent. of those insured in 1930–32 compared with 5·7 per cent. during 1924–32. Average seasonal unemployment (Table IV) increased from 1·9 per cent. of the insured in 1924 and 2·0 per cent. in 1928 to 2·3 per cent. in 1932. At the same time seasonal unemployment was a smaller proportion of total unemployment in 1932 than in 1924 or 1928 (Table III), since the seasonal variation increased in amplitude less than total unemployment.[2]

The reasons for the increase of seasonal fluctuations in times of cyclical depression are fairly clear. When prices are falling, the tendency is naturally to hold off the market; buyers are likely to avoid so far as possible the holding of stocks, orders are given in small lots and "hand to mouth" buying and manufacturing becomes general. Where seasonal fluctuations already exist, the effect of these influences is an even greater bunching of orders around the peak season, while the advance orders which normally help the manufacturer to fill slack times are reduced. Moreover, the surplus of unemployed workers facilitates seasonal operation; no difficulties are likely to be met by employers in finding adequate supplies of labour to meet the demand of the peak season. In periods of rising prices, on the other hand, all these tendencies are reversed.

6. *Implications.*

The implication of this statistical analysis of seasonal unemployment in the United Kingdom is that seasonal fluctuation contributes a larger share to the unemployment problem than is usually realised. Indeed the effect of seasonal fluctuation on the unemployment figures for all industry is far greater than, say, the post-war loss of export markets for coal or for cotton or the consistent depression in shipbuilding. The qualitative effects of seasonal fluctuation are less easy to estimate. It is

[1] Differences of 1 per cent. or less in range of variation are not taken into account.

[2] The same correlation between cyclical and seasonal fluctuations can be found in the pre-war Trade Union unemployment series. The association has also been noticed in Polish series and in Danish, Dutch and Norwegian unemployment returns. See J. Wisniewski, *Econometrika*, April 1934; Lindberg, *International Labour Review*, April 1934.

true that the unemployment thereby caused is met largely by systematic short time; it is fairly widely distributed industrially and geographically, while unemployment in Coal-mining and other declining industries causes great pools of localised depression and the social and economic ruin of whole districts. Yet, to the worker, seasonal fluctuation means an uncertain and irregular income and, often, a considerable amount of casual and semi-casual labour. To the firm, seasonal fluctuation means that sufficient plant must be installed to deal with a peak load only attained for perhaps a few weeks in the year, and therefore that overhead costs are likely to be high.[1] The consequent waste of labour and resources, though often regarded as permanent and inevitable, may nevertheless be serious.

It is certain, moreover, that seasonal fluctuation is not altogether unavoidable; a great deal of the unemployment which it causes might well disappear if concentrated efforts were made to stabilise activity in seasonal industries. The ultimate causes of seasonal fluctuation are no doubt in most cases climatic, but other elements, much more amenable to treatment than the processes of nature, must share the responsibility. The concentration of the demand for the services of painters and decorators in the spring, and the sudden rush of orders for new suits of clothes just before holidays, for instance, are not wholly attributable to the climate. Fashion, too, plays a large part, since a concentrated and fickle fashion demand cannot be anticipated by the building up of stocks. Again, the manner in which an industry meets a seasonally varying demand depends largely on its organisation. In a highly competitive industry the variety of products is likely to be great and few firms will be able to forecast the demand for each of their own lines. But the large firm takes a smaller risk in manufacturing in advance of demand, and can more easily finance the holding of stocks than the small concern which must often live on its orders from hand to mouth.

Since many of the factors responsible for seasonal fluctuation are within human control, there are opportunities for reducing the harmful and costly consequences of irregular activity. Government agencies, especially the Employment Exchanges, can help a great deal in the attainment of stability; for the most

[1] Employment statistics, which take no account of hours of work or of intensity or speed of work, probably under-estimate considerably the fluctuations in production. For the United States Kuznets shows that while average employment falls below employment at the seasonal peak by 4 per cent., production (in manufacturing industries) falls below the seasonal peak by 12 per cent. *Seasonal Variations in Industry and Trade*, pp. 348 and 354.

part, however, the reduction of seasonal fluctuation is a matter for the internal policy and administration of seasonal industries. In most of these industries some firms can be found which are already with considerable success smoothing out the seasonal peaks and valleys, but there can be little doubt that there is scope for the much wider extension of this kind of industrial planning.

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PROBLEMS OF FEDERAL FINANCE IN AUSTRALIA

THE burdens of war finance and the increased social responsibilities of modern States have made the adjustment of the financial relations of the Federal authority and its constituent members in a federation increasingly difficult. In the Commonwealth of Australia, where the States have substantial powers and heavy responsibilities under the Constitution, much effort has been expended in reaching a solution during the last twenty years. In 1927 a new basis for the financial relations of the States and the Commonwealth was found in what has come to be known as the Financial Agreement. In the ECONOMIC JOURNAL for 1927 I discussed the circumstances leading to the adoption of this agreement by the States and the Commonwealth, and outlined its main provisions. Up to the present, the Commonwealth payments to the States under the Financial Agreement have been greater than the payments that would have been made under the old *per capita* system of 25*s*. per head. But the depression has operated more harshly on State finance than on Commonwealth finance. The Commonwealth has been able to impose a drastic additional tax on property income, a primage duty on imports and a sales tax, the latter being a form of taxation open to the Commonwealth but not to the States. The Commonwealth was also assisted by the suspension by the British Government of payments in respect of war debts. The total relief to the Commonwealth budget from these sources amounted in 1931–32 to more than £21 m.

The States, on the other hand, have benefited by the fixed payment from the Commonwealth to them at a time when prices were falling. They have also been assisted recently by the heavy conversion of Australian securities on the London market. But they have had to bear the main burden of unemployment expenditure during the depression, and the losses on their State enterprises have inevitably increased. In general, they have no new field of taxation, and apart from special unemployment levies on income, little relief has come to them by way of increased revenue. In these circumstances their deficits though declining have not been eliminated despite the drastic economies undertaken when they adopted the Premier's Plan.

If existing conditions continue and State revenues do not

revive sufficiently to meet the existing State deficits of approximately £6 m., further adjustments in the financial relations of the States and the Commonwealth may prove to be the only satisfactory way of solving Australia's budget problem. If the depression has exposed the financial difficulties of the States as a whole, it has to an even greater extent emphasised the financial weakness of the less favoured States, namely, South Australia, Western Australia and Tasmania. The last two have received special assistance from the Commonwealth for over twenty years and South Australia has been a recipient of a special grant since 1929–30. In recent years these grants by the Commonwealth have been made after *ad hoc* investigations by specially appointed Commissions of inquiry. It has become increasingly obvious that the need for the grants will persist over a long period, and that as far as possible the grants should be made on a uniform basis. Consequently, legislation was passed by the Commonwealth in 1933 providing for the appointment of a Commonwealth Grants Commission, and in July 1933 the Commission was appointed.[1] The Commission furnished its first report [2] in the middle of 1934, when it reviewed the claims made by South Australia, Western Australia and Tasmania for special grants. The report is an illuminating document on the problems of Federal finance in general, and on the difficulties of financial adjustment in the Commonwealth itself.

In a preliminary survey of the problem the Commission discussed the question of financial responsibility in a Federation. Should the spending authorities also be the taxing authorities, or should the States as members of a Federation receive grants from the Federal authority? The Federal authority must inevitably levy customs and excise duties and most other forms of indirect taxation. The States are confined largely to direct taxation. It would be a remarkable coincidence if the receipts from indirect taxation in a well-planned system of taxation were nicely balanced to the needs of the Federal authority. Such a balance was not anticipated when the Australian Constitution was drawn up. On the contrary, it was expected that customs revenue would greatly exceed the requirements of the Commonwealth, and provision was made in the Constitution for the payment by the Common-

[1] The members were the Hon. F. W. Eggleston, Chairman, Professor L. F. Giblin and Mr. J. Wallace Sandford.

[2] Commonwealth Grants Commission Report on the applications made in 1933 by the States of South Australia, Western Australia and Tasmania for financial assistance from the Commonwealth under Section 96 of the Constitution. (F. 3390, Government Printer, Canberra.)

wealth to the States of surplus revenue. Moreover, under Section 96 of the Constitution the Commonwealth was empowered to "grant financial assistance to any State on such terms and conditions as the Parliament thinks fit." The experience of Australian Federation has emphasised the necessity for these constitutional provisions enabling the Commonwealth to make grants to the States. Though the States complain that they have not received sufficient from the Commonwealth, substantial payments from the Commonwealth have been made annually. The Commission justifies these payments on the following grounds :

> "A government is not truly responsible if the normal exercise of its powers gives it more money than it needs, especially if this result is, to an extent, accidental, as in the case of a customs tariff imposed for protective purposes. Nor can the principle of responsibility be satisfactorily applied if governments receive less than they require for their essential needs. In the latter case services are starved, finances are embarrassed and drift follows. In the former, governments become extravagant. We think, therefore, that some redistribution of revenue must be accepted as almost inevitable in any Federation, and especially at certain stages of development. If the redistribution gives the recipient States considerably less than they require to raise, the principle of responsibility is not seriously affected. Experience supports this view, for in all Federations there is, in effect, some redistribution."

There is one other general problem specially applicable to Federation in Australia that the Commission has emphasised. The States in Australia have sponsored rural developmental policy. On the other hand, the Commonwealth has fostered the development of secondary industries. The pursuit of these two developmental policies by two independent authorities has inevitably led to some conflict of interests. The Commonwealth extended protection to some uneconomic industries which imposed burdens upon export producers, but the Commonwealth itself suffered little direct financial loss as a result of this policy. The States, on the other hand, have pushed land settlement into marginal areas. With the collapse in the prices of primary products these marginal areas have become a heavy burden upon State finance. The Commission summarises the position as follows :—

> "Moreover, as one developmental activity, that connected with land settlement, is in the hands of the States, and the

other developmental instrument, the tariff, is controlled by the Commonwealth, there is a lack of consistency and co-ordination in the two policies. There is almost a competition between the two factors of development; each frustrates the effect of the other; the burdens created by the one make the protection required for the other the greater, so that the clash we noticed earlier becomes more intense as each protective effort grows. There is an increasing amount of protection to primary industry in the Commonwealth tariff, but the broad distinction set out above still remains."

As two of the claimant States, South Australia and Western Australia, have been engaged in the past fifteen years in developing marginal areas, this conflict between the development of protected secondary industries and marginal areas is in part responsible for their difficulties. The benefits and costs of the tariff are unevenly spread over the several States. Unsheltered industry bears ultimately the main burden of the tariff. For the whole of Australia unsheltered industry amounted to 34 per cent. of the total production in 1931–32, or £16 per head of population. In two of the claimant States, South Australia and Western Australia, the percentage of unsheltered industry to total production was respectively 50 per cent. and 59 per cent., or £23 and £34 per head. In Tasmania it was 38 per cent. and £15 per head. It would appear, therefore, that the costs of the tariff are relatively heavy on the three claimant States, especially on South Australia and Western Australia, but it is impossible to assess the net costs and their effects upon the budgets of the States. But the claimant States, again especially South Australia and Western Australia, have in recent years incurred heavy costs in developing marginal areas, and their financial difficulties are in part caused by the losses incurred in these ventures. In some instances the States must accept these losses as mistakes made on their own initiative, and the Commission makes due allowance for this in finally assessing their claims.

There were other general grounds on which claims were made, *e.g.* the burdens imposed on some States by the Navigation Act and the standard of wages and conditions of work established by the Commonwealth Arbitration Court. It is impossible, however, to measure satisfactorily the financial effects of these and other elements of Commonwealth policy upon State budgets. The Commission recognised this but insisted that the Commonwealth could not allow the finances of a State to drift. On the general

grounds of the effects of Commonwealth policy the claimant States had, it was conceded, made out a valid case.

On what principles then should the amount of the grants be decided? The basic consideration adopted by the Commission was the relative financial position of the several States. Starting with the actual deficits in recent years, it was shown that the claimant States required in 1932–33 the following grants to bring their deficits into conformity with the average *per capita* deficits of N.S.W., Victoria and Queensland.

	Grants Required. 1932–33.	*Grants Made.* 1932–33.
	£	£
S. Australia	1,350,000	1,000,000
W. Australia	870,000	500,000
Tasmania	120,000	330,000
	2,340,000	1,830,000

On the basis of this crude calculation Tasmania would receive a smaller grant and South Australia and Western Australia a greater grant. But adjustments had to be made on account of the following special conditions affecting the three States:—

1. Omissions from the budget of expenditure that should be included, *e.g.* crediting revenue with capital sums such as loans, or repayments of advances by State debtors.
2. Differences in standards of expenditure, *e.g.* maintenance of capital equipment, social services, local government activities.
3. Differences in the severity of taxation.
4. Losses caused by mistaken or extravagant loan expenditure, *e.g.* group settlement schemes in Western Australia or Mallee wheat development in South Australia.

The Commission was able to make reasonably accurate estimates of the allowances (plus or minus) that should be made for these several conditions. It is impossible here to trace in detail their methods. Attention should, however, be directed to the important chapter on Measures of Taxation and Relative Prosperity, where the severity of taxation in the States is measured. This is an important piece of research based upon the work done by Professor Giblin [1] on the problem, but with refinements and extensions. It would be unreasonable to make an unconditional grant to a State where taxation was relatively light, as it is in Western Australia. The Commission adds to or subtracts from

[1] See the *Economic Record*, December number, in recent years.

the grants as crudely estimated an amount sufficient to bring the severity of taxation into conformity with the average for Australia. And so with the other conditions for which a special allowance had to be made. As regards the fourth (losses due to mistakes), the estimated amount was deducted from the claims.

The net effect of these adjustments may be summarised as follows :—

	S.A. £000.	*W.A.* £000.	*Tas.* £000.
Grants as crudely estimated	1,350	870	120
Addition for omissions from budgets . .	—	+220	+50
Maintenance of capital equipment . .	—	—	+80
Economy of administration and social services	− 90	−130	+80
Severity of taxation	+110	−400	−40
Losses caused by mistakes	−110	—	—
	1,260	560	290

These are not the final grants recommended by the Commission. Two further adjustments were made. First, on account of the unsatisfactory nature of the data on which the estimates were made and of the necessity for guarding against suggesting grants that would be insufficient, the totals in the above table were raised by 10 per cent. Secondly, the differing history of the three States prior to 1932–33, the year on which the estimates were based, was considered. Both South Australia and Tasmania had experienced budget difficulties of more than usual severity and had been forced over a period of years to incur heavy taxation and to make drastic economies. These two States were allowed an additional £100,000 on this ground. The final recommendation was, therefore, South Australia £1,400,000, Western Australia £600,000 and Tasmania £400,000.

The Commonwealth Government accepted this recommendation. The Commission will make an annual review of the position of the claimant States. It has announced its intention of maintaining the same general principles on which to assess the claims, but it is endeavouring to procure more satisfactory data and thus to improve its own estimates. In particular, it is seeking to obtain greater uniformity in budget practice among the States. Its work will be watched with interest by students of Federal finance and perhaps even by harassed Federal governments elsewhere that have to meet claims from distressed States or provincial governments.

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The University of Melbourne,
March 1935.

PROPOSED AMENDMENT OF THE FEDERAL RESERVE ACT OF THE UNITED STATES: THE ADMINISTRATION BANKING BILL OF 1935

§ 1. THE proposed American Banking Act of 1935 (S. 1715, H.R. 5357), introduced last February in Congress, reported favourably this month (April) by the Banking and Currency Committee of the House, and now up before the Senate Committee, is generally regarded as one of the most important measures put forward by the present administration. It represents a radical departure from the central banking philosophy which underlay the Federal Reserve Act as originally conceived, and would throw into the discard many of its cardinal provisions. It would, however, make much less difference in the *status quo* which has been brought about by the emergency legislation of the past three years. For it largely proposes to make permanent many of the features of these laws—the Glass-Steagall Amendment of 1932, the emergency Banking Act, the Banking Act of 1933, the Gold Reserve Act of 1934, and so forth. The Bill has engendered a veritable storm of controversy. It has been violently attacked both by the orthodox adherents of traditional "sound money" views and "automatic" banking processes, who, on the one hand, regard it as going much too far, and, on the other, by the inflationist groups and the radical advocates of banking reform, who would go much further in the establishment of centralised monetary control. Assuming the President's support, however, the eventual passage of the Bill in substantially its present form would appear likely.

§ 2. *Objectives.* The Bill's objectives, as stated by Governor Eccles during the House hearings, are as follows:—"To increase the ability of the banking system to promote stability of employment and business in so far as this is possible within the scope of monetary action; as a necessary step in that direction, to concentrate the authority and responsibility for the formulation of national monetary policies in a body representing the nation; to modify the structure of the Federal Reserve system to the extent necessary for the accomplishment of these purposes, but without interfering with regional autonomy in matters of local concern; and finally, to relieve the banks of the country of unnecessary

restrictions that handicap them in the proper performance of their functions and thus to enable them to contribute more effectively to the acceleration of recovery." These objectives are posited on the view that the attainment of economic stability is incompatible with *laissez-faire* in banking, that the operation of the banking system left to itself tends to intensify rather than counteract business fluctuations, and that, consequently, conscious and deliberate control, exercised by and concentrated in a responsible body with adequate powers, is indispensable.

§ 3. *Membership in the Federal Reserve System.* The heart of the Bill is Title II, which comprises amendments of the Federal Reserve Act. Title I deals with amendments respecting the Federal Deposit Insurance Corporation, and Title III with technical amendments of a non-controversial nature. The latter is mainly concerned with correcting errors and omissions in the Banking Act of 1933, and, for the most part, follows generally approved lines.

The object of Title I and of section 202 of Title II is to bring about the gradual absorption into the Federal Reserve system of all the commercial banks in the country, and thus to render more effective Federal Reserve control of credit. This objective is likely to encounter little opposition in Wall Street, but is feared by many small bankers in other parts of the country, and has therefore been consistently opposed hitherto by certain political interests. In order to hasten the admission into the Federal Reserve of insured non-member banks, the Reserve Board is given authority to waive capital and other requirements for admission, because many non-member banks could not readily qualify for membership under present rules and regulations.

Title I provides for insurance of bank deposits up to a maximum of $5,000, as at present, but assessments are to be levied not against insured deposits but against total deposits. The premium, however, is fixed at only one-eighth of one per cent. a year. These sections have aroused relatively little discussion, their general import having been pretty much expected. The larger banks complain at being compelled to pay to the F.D.I.C. assessments disproportionately large in relation to their insured deposits and to the payments of smaller banks, but feel that the provisions constitute a decidedly lesser evil than the so-called permanent plan which was scheduled to go into effect on July 1, 1935.

§ 4. *General Nature of Reserve Act Amendments.* Title II would virtually revolutionise the central banking philosophy underlying

the original Reserve Act. Greatly increased powers over the nation's banking system would be given the Reserve Board by vesting in it and its Governor many of the powers of a central bank, as understood in European countries : the semi-autonomous character of the Reserve Banks would be drastically modified. This idea is diametrically opposed to the concept of the original Federal Reserve, but constitutes no great departure from the present actual situation. The Bill would bestow on the Board virtually complete control over national credit policies and render the Board in turn more responsive to the Administration.

The means to these ends are briefly as follows. Governors of Reserve Banks are to be made responsive to the authority of the Reserve Board by requiring that their appointments be subject to the latter's approval. The Governor of the Reserve Board is himself to be removable at will by the President. Virtual control over open-market operations and discount policies would be lodged with the Board. Rigid collateral requirements and eligibility provisions for note cover and rediscounting are wiped out. Any "sound asset" of a member bank is to be eligible for rediscount at a Reserve Bank, subject to regulations of the Board, which would enjoy discretionary powers. To be discountable, paper would not need to be short-term or "self-liquidating." Collateral requirements for Federal Reserve notes are likewise scrapped, and the necessity is removed of segregating any specific government bonds or other paper. The 40 per cent. backing in gold certificates is, however, retained. These reforms represent the abandonment of the theory of the "automatic adjustment" of currency and credit to the "needs of business," in favour of managerial discretion. In order to combat excessive credit expansion the Board is given power to change member bank reserve requirements by classes of cities. Finally, member banks are to be permitted to grant loans on real estate on conditions to be determined at the discretion of the Reserve Board, on an amortisable basis, for long periods of years. The official summary of Title II, as later modified by Governor Eccles in his testimony before the House Committee, follows.

§ 5. Title II.—*Federal Reserve Act Amendments.* (With modifications later proposed by Governor Eccles.)

With respect to Federal Reserve Banks :

1. Combine offices of chairman of the board of directors and governor at each of the Federal Reserve Banks, appointments to be made for three years by the directors of the bank,

after approval by the Federal Reserve Board. Vice-governors are to be selected in the same manner.

2. No members of the board of a Federal Reserve Bank, except governor and vice-governor, shall hold office for more than six consecutive years.

With respect to the Federal Reserve Board :

3. It shall be the duty of the Federal Reserve Board to exercise such powers as it possesses to promote conditions making for business stability and to mitigate by its influence unstabilising fluctuations in the general level of production, trade, prices and employment, so far as may be possible within the scope of monetary action.

4. Change qualifications for future appointive members of the Federal Reserve Board by providing that they shall be persons well qualified by education or experience or both to participate in the formulation of national economic and monetary policies. The present geographical limitations shall not apply to election of future governors. The governor shall cease to be governor when he is no longer designated as such by the President.

5. Increase the salaries of appointive members to $15,000 per annum, with compulsory retirement at seventy on $12,000 pension. Proportionate pensions will be allowed for service of less than twelve years.

With respect to credit control :

6. Authority over open-market operations shall be vested in the Federal Reserve Board, but there shall be created a committee of five governors of Federal Reserve Banks, selected by the twelve governors of the Federal Reserve Banks, and the Board shall be required to consult this committee before adopting an open-market policy, a change in discount rates, or a change in member bank reserve requirements.

With respect to collateral requirements :

7. Any sound asset of a member bank shall be eligible for discount at a Reserve Bank, subject to regulations of the Federal Reserve Board, and the Board shall also have authority to prescribe limitations on maturity of advances to member banks.

8. Obligations the principal and the interest of which are guaranteed by the United States shall be eligible for purchase by Federal Reserve Banks without regard to maturity.

9. Collateral requirements for Federal Reserve notes shall be repealed, and the office of Federal Reserve agent shall be abolished.

With respect to reserve requirements :

10. In order to prevent injurious credit expansion or contraction, the Federal Reserve Board may change reserve requirements as to any or all classes of cities. For this purpose banks shall be classified into two groups : one comprising member banks in central reserve and reserve cities, and the other all other member banks. Changes in reserve requirements, therefore, would have to be either for the country as a whole, or for the financial centres, or for the country districts.

With respect to capital requirements :

11. At any time prior to July 1, 1937, the Federal Reserve Board may admit any insured non-member bank to membership in the Federal Reserve System ; and shall have authority to waive not only capital requirements, but all other requirements for admission ; and the Board shall also be permitted to admit existing banks to membership permanently without requiring an increase in capital, provided their capital is adequate in relation to their liabilities.

With respect to real estate loans :

12. The conditions on which real estate loans may be granted by member banks shall be left to the discretion of the Federal Reserve Board to be determined by regulation. No real estate loan hereafter made shall exceed 60 per cent. of the appraised value of the property ; but this shall not prevent the renewal or extension of loans heretofore made.

§ 6. *Analysis of Provisions.* These provisions may be examined more fully against the background of ideas which actuated them on the part of the Bill's sponsors and the grounds upon which they have been attacked by opponents.

(a) *Federal Reserve Banks.* The chief proposal here (sect. 201, as later modified) is to combine the offices of the chairman of the board of directors and the governor of the Reserve Banks, and to have appointments (as also those of vice-governors) subject to the approval of the Reserve Board every three years. The original Act's intention was that the chairman of the board of directors of each regional bank (who is one of the three Reserve Board appointees) should be its principal executive officer. The

directors developed the practice, however, of appointing as executive officer a "governor," a title not mentioned in the law, with whom the Reserve Board has no legal relationship. The Bill seeks to re-establish the original principle of the Act that the Reserve Board, which is responsible for national policies, should be a party to the selection of the active heads of the Reserve Banks. It ought to bring about smoother co-operation between the Board and the Banks.

(b) *Federal Reserve Board.* It is revealing that the duty of the Federal Reserve Board should be explicitly stated to be to exercise such powers as it possesses to promote business stability (sect. 203, as modified). This stands in marked contrast to the system's original objective of "accommodating trade," and implies recognition of the responsibility of the supreme monetary authorities to do all in their power to mitigate industrial fluctuation. It represents a victory for the advocates of monetary control. That the Governor of the Board is to serve at the pleasure of the President involves no great departure from the present situation.

(c) *Open-Market Operations.* The section dealing with this matter (sect. 205) is one of the most controversial in the Bill and one of the most important, for open-market operations are the most powerful single instrument of reserve policy in control over the volume and cost of credit. The Bill proposes to centralise them to a much greater degree than hitherto, on the grounds that responsibility must be vested in a small body capable of acting promptly.

As matters now stand, the Reserve Board is charged with responsibility but lacks clear and explicit authority. Responsibility is divided between a committee representing the Federal Reserve Banks, which initiates policies, the Federal Reserve Board, whose approval is required, and the boards of the directors of the Federal Reserve Banks, which decide whether they shall participate. Diffusion of responsibility has inevitably resulted in obstruction, delay and inaction. The Bill, as later modified, proposes to place ultimate responsibility in the Federal Reserve Board as a whole.

(d) *Rediscounting* (sect. 206). The theory underlying the original Federal Reserve Act was that the supply of credit could not be excessive provided it were of the short-term "self-liquidating" variety and granted only to meet the "legitimate" needs of trade. But these restrictions as to the character and maturity of discountable obligations did not prevent a huge credit expansion in the boom period and did promote a savage struggle

for liquidity during the depression. The present Bill, in making *any* asset eligible for discount at the discretion of the Board, constitutes a marked departure from both previous American and European practice, but would, it is held, encourage member banks to pay more attention to the soundness of the paper offered by borrowers and less to its form and maturity.

Even to-day many banks are unwilling to extend loans which cannot be immediately "liquefied" at the Reserve Banks. During the banking crisis, when help was most urgently needed, many smaller banks found they could not receive adequate aid from the Federal Reserve for lack of "eligible" assets, even though they held other sound assets. Furthermore, radical changes in financial practices since the establishment of the Reserve system have materially reduced the volume of short-term self-liquidating paper of the classes to which the discount privileges of the Reserve Banks are largely restricted by law. During the boom, business financed itself largely by means of stock issues. Even in 1929 the total volume of eligible paper held by member banks amounted to only about $4,000,000,000, or little more than 12 per cent. of the resources of the banks: at present it is about $2,000,000,000, or less than 8 per cent.

The eligibility requirements had engendered a belief in the soundness and liquidity of this type of paper, but during the depression some classes were found to be less liquid and secure than certain other types of paper which could not be rediscounted, such as security loans. Eventually, under emergency legislation, existing restrictions had to be temporarily removed and discretion given the Federal Reserve authorities, but not before many banks had been forced to close down. The competitive struggle of the banks for eligible assets and liquidity greatly intensified the deflationary process. The total volume of deposits was drastically reduced in consequence of the inability of the member banks to get relief from the Federal Reserve, until the banking structure was liquidated to the point where it became entirely frozen. In unfreezing it, the Reserve Banks had to be allowed to loan to member banks on other assets. It was found that in an emergency the bank of last resort must be prepared to liquefy any sound assets, there being no liquidity in these conditions except such as it creates itself.

(e) *Federal Reserve Notes* (sect. 208). This section perpetuates the Glass-Steagall Act of 1932, which made the Federal Reserve note to all intents and purposes a bond-secured note. The original rigid requirement that Federal Reserve notes be backed by at least

40 per cent. in gold and the balance in eligible paper (or, since 1932, Government bonds) is abrogated in favour of making them "obligations of the United States secured by a first and paramount lien on all the assets" of the issuing Reserve Bank, while retaining the 40 per cent. gold cover.

The original provision was based on the notion that the volume of currency outstanding was directly influenced by the amount of commercial paper, which in turn reflected the volume of business activity. The Federal Reserve note was thus meant to provide an elastic currency automatically adjusted to the needs of trade by virtue of the collateral required behind it.

Currency, however, has been of such minor importance compared with bank credit as a means of payment that little relationship is discernible between the volume of notes and the volume of commercial borrowing. The original theory, however, not only over-emphasised the importance of the commercial loan and the demand for currency for commercial purposes, it also overlooked the effects of the demand for currency for hoarding purposes. In point of fact the heaviest demand occurred not at a time of active business and heavy member-bank discounting, but of acutely depressed trade. In 1932, following internal hoarding and foreign gold drains, the requirement for segregation of collateral caused serious difficulty by tying up gold over and above the 40 per cent. required reserve. As a result of the scarcity of eligible paper, over 60 per cent. in gold had to be pledged behind notes, with corresponding reduction of the system's "free gold." When the law was thus put to a severe test it had to be suspended. It not only tied the hands of the Reserve system in combating deflation, but came near driving the country off the gold standard on a technicality. For the emergency, the pledge of government bonds was permitted as collateral against Federal Reserve notes under the Glass-Steagall Act.

(f) *Member Bank Reserve Requirements* (sect. 209). The Federal Reserve Act, as amended by the Act of May 12, 1933, gives the Reserve Board power in an emergency to change the reserve requirements of member banks. The present Bill proposes to vest this power in the Board at all times, on the grounds that it is a function of monetary control second in importance only to open-market operations. The weapon would be used only to reinforce open-market operations when the latter were not powerful enough to curb inflation because of the magnitude of the excess reserves of member banks. Thus employed, it could unquestionably be highly effective in arresting a boom. The extent to which it is

likely to be used is, however, another question. For not only is the political factor involved, but also the timing difficulty of exercising control before the process has gathered momentum. That difficulty, however, is inherent in all attempts to mitigate industrial fluctuations through monetary control.

(g) *Real Estate Loans* (sect. 210, as modified). This is one of the most criticised sections of the Bill. It does not introduce a new character of loan, but does propose to relax greatly the existing limitations on real estate loans by member banks. It is hoped that, coupled with the provisions in regard to eligibility, it will induce member banks to lend more freely on real estate, and so improve the mortgage market and stimulate construction.

It is held that since member banks hold about $10,000,000,000 in savings, it is proper that they should invest part of their funds in long-term undertakings. No restrictions have been imposed upon the investment by banks of either savings or commercial funds in long-term bonds. Being listed, these were thought to be readily marketable. The depression showed that this was so only at prices that would have inflicted heavy losses upon the banks. More banks became insolvent as a result of the depreciation of their bond accounts than of their real estate loans. "A ready market was not expected for real estate loans, and so long as they were not in default they were considered to have the value of the amount of the loan."

§ 7. *Political Aspects.* Perhaps the severest criticism of the Bill has been on the grounds that centralisation of control in Washington will inevitably spell political control and open wide the door to inflation. Its opponents derive cold comfort from the reflection that it will do little more than make permanent a *status quo* which they regard as anathema. A leading article in the *New York Times* stigmatised the Bill as a "most mischievous series of proposals." Its sponsors argue, however, that in normal times, when temptation is absent, the system would not be unduly exposed to political pressures; while in periods of stress automatic checks and safeguards of Reserve Bank autonomy, whenever they are felt to impose an intolerable strain, are nullified in any event. They point to the perversion in practice of the Reserve Act's original intention, the breakdown of the entire banking structure during the depression, and the necessity under which both the Hoover and Roosevelt administrations felt of intervening. In view of the fact that governments cannot or will not divest themselves of responsibility for formulating basic lines of monetary policy, that responsibility had better be placed squarely where it

belongs, or at least where those who wield it can be held answerable. They feel that the attempt to insulate the banking system from the effects of the government's fiscal policy is bound to break down in times of stress. And, indeed, during the past few years the real central bank in the United States has been the Treasury.

Traditional ideas of central banking have rested on the assumption of a freely flexible, competitive, *laissez-faire* order under which all government intervention in economic affairs was strictly circumscribed. With the passing of that system, and under the very different conditions of to-day, ultimate control of the central banking system by the administration in office would appear inevitable, however much we may deplore it. The trend has been in that direction throughout the world, despite the general practice, and obvious theoretical advantages, of making central banks technically independent of changing political administrations, and of leaving their ownership in private hands. For governments will not, especially in periods of emergency, forgo exercise of a function so nationally vital as the determination of monetary and central banking policy. The danger admittedly exists that in periods of expansion the politically unpopular course of checking the boom will be difficult to take; but this was already the state of affairs under the system as it worked prior to the depression.

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REVIEWS

Some Relations between Political and Economic Theory. By G. D. H. Cole (Macmillan & Co. Pp. 92. 4*s*. 6*d*. net.)

Studies in World Economics. By G. D. H. Cole. (Macmillan & Co. Pp. 285. 12*s*. 6*d*. net.)

We have learned to expect from a new book by Mr. Cole something readable, topical, suggestive of new ideas and stimulating to popular discussion. Both of these books are topical in what they discuss and in the main popular in their style and their appeal; both of them are instructive and leave one with a number of new trains of thought. Yet why is it that so frequently one lays down a book by Mr. Cole with something of an unsatisfied feeling, pondering whether it is a merit or a demerit that a book should leave one's appetite more whetted than appeased? One has a sense that one has listened to someone thinking aloud, with the charm and sometimes the irritation which such listening entails. One feels eminently informed yet insufficiently enlightened. One feels stimulated to thought yet left with concepts which are vague and imperfectly defined. One feels that the commentary has been, perhaps, too facile; that the ideas discussed have been rendered in the process rather less interesting than their authors intended and a trifle pedestrian, and the final conclusions, in the desire to make them plausible, rather too eclectic to have a quite satisfactory ring.

In these two books Mr. Cole is far from the intention of merely thinking aloud. Yet the impression is not completely dispelled. Mr. Cole is intending to outline a political and social philosophy, efficiently shaped to the problems of the contemporary world; and it is this which gives to these scattered articles, essays and addresses the unity of each volume which the varied chapter-titles do not appear to have. Of the two books the smaller is in many ways the more satisfying, perhaps for the reason that, having the dimensions of an essay, it is more of one piece and less pretentious in its scope. This, which is reminiscent of the stimulating quality of Mr. Cole's earlier and more political writings, aims to give a critical estimate of the three leading political philosophies which the twentieth century has inherited from the century before: the "absolutist" theory of Hegel, which "differed from the earlier Idealists in conceiving the

universal not in static but in dynamic terms"; the rival Utilitarianism of Bentham and Mill and the Fabians, which rejected any absolute other than the expedient; and Marxism, which attempted a synthesis of the two modes of approach. On the relation of Marxism to Hegelianism Mr. Cole has some interesting things to say, in particular in terms of the contrast between Marxism and Fascism. "Hegel's thought," it is aptly said, "was dynamic in relation to actual history, but static in the realm of thought itself. Marx's doctrine is dynamic in both these aspects. . . . Hegel could define statically the conditions of the completed State before it had come into actual being. Marx, on the other hand, denying the logical priority of ideas to their actualisation, rejected the possibility of any such static presentation." Hence the glorification of the State as such in Hegelian Idealism and its direct descendants, as contrasted with the rejection of the bourgeois State in Marxism, which distinguishes the latter also from Utilitarianism and Fabianism. And again: "Marx and the Fascists seized on quite different elements in the Hegelian doctrine. Marxism seizes on the notion of historical evolution, and Fascism on the static and idealist elements. Fascism is Hegel without the dialectic : Marxism is the dialectic without Hegel." Mr. Cole's standpoint emerges fairly clearly from these studies. All absolute principles of politics are for him untenable. Everything is relative to its situation in history. Hence he goes further than the Benthamites in maintaining that "the 'right' in politics must be something appropriate to a particular situation and cannot be proclaimed . . . in universally applicable terms." Here he seems to march in company with Marx, who sought "to formulate a general theory in the light of concrete historical experience"; yet this too, in the final reckoning he rejects in so far as Marxism claimed to present a "formula capable of being stretched to explain all history." There is a discussion, more interesting than profound, of the relation between Utilitarianism and economic theory; and here similarly absolute formulations are rejected. "Our theory of history, based on the conception of social evolution, warns us to expect from economic theory not universal conclusions but only conclusions limited in their application to a particular set of historical facts." Mr. Cole leaves us with a not very explicit pragmatic *dictum*, that a social theory must be something designed to enable men to "act rationally on the assumptions which meet the needs of their environment."

The larger book is more diffuse and in its quality and interest

it is uneven. There are six encyclopædia articles of no more than secondary interest: on *Laissez-faire*, Industrialism, Socialisation, Planning International Trade, Inheritance and Economic Mobilisation. There is an introductory article which conveniently contrasts in 27 pages the demerits respectively of State Capitalism and of Communism with the merits of a rejuvenated Socialism which is to have "a new parliamentary strategy" and apparently the voice of a sheep and the limbs of a lion (or, is it the other way round according to its audience?). To Communism as a creed for Western Europe he objects because it would frighten the middle class (p. 23). In "The End of the Bourgeoisie" he develops his now-familiar views, which are akin to those of the Revisionist-Marxist Bernstein, about the new *petite-bourgeoisie* of the twentieth century, which is to be the audience of his new brand of socialism, and which he would seem to envisage as more homogeneous than it really is. Two articles for political reviews raise in general terms the problem of technical change, the distribution of income and "technological unemployment." Another deals lucidly and sensibly with the problem of "consumers' credit" and the advocates of "more purchasing power." There are 10 pages on "The Economics of Advertising," and two longer papers, respectively to Oxford and Cambridge economists, on "Dr. Hayek's Triangle" and "Towards a New Economic Theory," which contain the onus of Mr. Cole's case with regard to economic theory. The book concludes with a paper read to the Aristotelian Society, in which he restates that particular doctrine of political pluralism for which Mr. Cole's earlier works are famed.

The chapters which deal with economic theory promise more than they fulfil. Here Mr. Cole has tackled two of the most complex problems of economic theory and method, which remain to-day considerably encumbered with confused notions: namely, the problem of technical progress and capital and the problem of the validity of the subjective theory of value in its application to different types of economic society. These problems require, not only freshness of insight and suggestive brilliance, which have been the stimulating quality of so much of Mr. Cole's political writing, but painstaking and systematic analysis, in which assumptions are rigorously laid bare and concepts made ruthlessly precise. This is not a task for hasty composition. One is left with the sense of a problem greater than the acumen devoted to its analysis. The chapter on "Towards a New Economic Theory" is fertile enough in the questions it poses,

but hardly does more than scratch the surface in answering them, both in its contrast between Marx and Subjective Economics (which is superficial and incomplete) and in its discussion on the place of the theory of value in a Socialist economy. The chapter on Professor Hayek, for all its fluency, is often obscure; and one suspects that the complexities of the problem are more numerous than Mr. Cole's somewhat cavalier treatment of it implies.

The theme which runs through this as through several other essays is a theory of under-consumption which Mr. Cole seems to have taken over fairly completely from Mr. Hobson. But since he nowhere makes his assumptions very plain, it is hard to gather what precisely it is that he claims. Crises and unemployment he considers to be due "to a deficiency not in total purchasing power" but "in the amount of purchasing power actually expended on consumers' goods and services," due to "the relative depression of the share of the national income going to the poorer sections of the community." Elsewhere he seems to place considerable importance on the fact that under capitalism "some incomes are also costs whereas others are not" (p. 39). The meaning is here ambiguous. If he means that as capital accumulation proceeds, then *ceteris paribus* there will be a tendency for the rate of profit on capital to fall, and since it falls discontinuously to cause crises, then his theory is substantially that of Marx. But this implies that, not the cheapness of labour, but rather its dearness (from the capitalists' point of view), is what precipitates unemployment; and it will not follow that higher wages or distribution of increased purchasing power would prevent a crisis, as Mr. Cole appears to suggest. For instance, on page 136, he suggests that the degree to which the rate of interest will fall in face of an increased supply of new capital will depend on whether there is a contraction or expansion "in the money income applied to the purchase of consumers' goods"; and again, that "the demand-price for capital depends *in the last resort* [italics mine] on the demand-price for consumers' goods at the margin." Mr. Cole seems to be saying something more than that savings may become "hoarded" and so fail to eventuate in a demand for goods. One suspects that ambiguity arises here because Mr. Cole has separated too rigorously in his mind the problem of distribution and the problem of exchange, and has failed to conceive them as a unity, as two facets of the same problem; with a consequent neglect of the essential truth which lies behind both Mill's *dictum* that "demand for

commodities is not demand for labour," and Ricardo's *dictum* that "if wages rise, profits fall." Similarly, in his discussion of "Dr. Hayek's Triangle" he seems to confuse dynamic concepts (the occurrence of *new* inventions) and static concepts (the introduction, because interest-rates are lower, of technical methods which were previously accessible but were not considered profitable); which seems to lead him into an *ignoratio elenchi* when he questions Prof. Hayek's assumption that new capital will be invested in less remunerative employments than the old. What he is saying about the discontinuities which arise under the dynamic conditions of the real world are suggestive and worthy of careful discussion; but as he is ambiguous about the assumptions he is using (despite a pretence to the contrary) we do not feel much the wiser. A reader's difficulties are not lessened by a suspicion that, in discussing the supplanting of old capital equipment, he is challenging the essential truth underlying the doctrine that "rent (and hence quasi-rent) does not enter into cost of production" (*e.g.* p. 148), with its corollary that old capital will only be supplanted (short of monopolistic agreement) when the difference in cost between the old method and the new is at least as great as the whole capital-cost under the obsolete method. Again, in his discussion of "The Economics of Advertising" there seems to be some confusion between two distinct things: the elasticity of a demand-curve and what one may perhaps call the "fickleness" of a demand in the sense of the possibility of the whole demand-curve being *shifted* under the advertiser's influence. This leads Mr. Cole to enunciate the questionable principle that advertising is only likely to "pay" in cases of products with an elastic demand, and causes the significance of advertisement as a factor altering the *position* of demand-curves to be insufficiently appreciated, at any rate by the reader.

Mr. Cole will doubtless retort that he is concerned, not with the abstract assumptions traditional to economists, but with getting close to the real world. For such an emphasis, which certainly pervades this book, one can have nothing but praise. Yet one can still regret that in his concern for realism he should at times seem to neglect the wood for the trees and to overlook the essentials of any analysis, namely, to ensure that one's assumptions are both explicit and consistent and one's concepts precise.

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International Comparisons of Cost of Living. International Labour Office. 1934. 5*s.*

It is generally recognised that in countries where statistics of retail prices are developed, and there has been an adequate collection of budgets of expenditure, it is possible to make reasonably accurate measurements of the changes in the cost of living at some defined standard of living, over a short period of years during which there have been no violent changes of circumstances; but that as we lengthen the period difficulties of measurement increase, and that when we try to compare costs of living between two countries there are added difficulties of definition and the purely statistical obstacles become more serious.

This problem of comparing costs of living between a number of countries at one date, so far as food and rent are concerned, is attacked in the publication before us by Dr. H. Staehle and Mr. R. Guye. Both from methodic aspects and as an important solution of part of the problem the study deserves close attention.

The fundamental difficulty may be thus described. At one time or place budgets show that quantities of goods $q_0', q_0'', q_0''' \ldots$ are purchased at prices $p_0', p_0'', p_0''' \ldots$; at another time or place quantities $q_1', q_1'', q_1''' \ldots$ are purchased at prices p', $p_1'', p_1''' \ldots$.

We can then write Laspeyres' formula $P_0 = S(p_1q_0)/S(p_0q_0)$, or Paasche's formula $P_1 = S(p_1q_1)/S(p_0q_1)$.

P_0 shows the ratio of the costs of the first budget at the two sets of prices, and P_1 similarly of the second budget.

Comparison can only be made strictly when we are considering one individual, or two with identical tastes, faced with two different price situations. Several writers have shown that it is reasonable to take some average of P_0 and P_1 to measure the change in the cost of maintaining an assigned standard in this case. It is not of much importance to choose one form of average rather than another in cases where the conditions allow a reasonable comparison.

When, however, we wish to compare two countries, the question becomes:—A person in country A with a scale of preferences a, buys $q_0', q_0'', q_0''' \ldots$ quantities at prices p_0', p_0'', $p_0''' \ldots$; another in country B with a scale of preferences b buys $q_1', q_1'', q_1''' \ldots$ at $p_1', p_1'', p_1''' \ldots$. How much higher or lower is the cost of living in A than in B?

The possibility of any answer to this question evidently depends on the identity or close similarity of the kinds of goods

purchased—we cannot compare a diet of rice with one of bread and meat—and on similarity of tastes.

The novel element and the importance of Dr. Staehle's study are found in the methods of testing similarity.

Given detailed budgets for countries A and B, P_0 measures the ratio of the costs to a person of A of purchasing his basket of goods in B and in A. P_1 measures the ratio of a person of B of purchasing his basket in B and in A. P_0 may be found to be greater than unity, at the same time that P_1 is less than unity; there is no necessary relationship between them. It is evident that the difference between the two must be small, to allow a valid measurement; but Dr. Staehle shows that this is not a sufficient criterion and develops others in addition.

He adopts as criterion of comparability a quantity D defined as

$$D = (P_1 - P_0)/P_0 = r_{pq} \cdot \sigma_p/P_0 \cdot \sigma_q/Q_0.$$[1]

Here r_{pq} is a coefficient of correlation between the price ratios p_1/p_0 and the quantity ratios q_1/q_0;[2] the last two fractions measure the dispersions of the price ratios and the quantity ratios respectively.

In fact σ_p/P_0 and σ_q/Q_0 can be regarded as measuring respectively the dissimilarity of the price systems of the two countries, and of the quantitative budgets in them.

Even if D is small, still the differences in tastes of persons in the country may invalidate comparison.

With this apparatus the budgets of a number of countries are examined. In doing this it has been necessary to compute the P's separately for several grades of incomes in each pair of countries. Comparability may be good for low incomes, but bad for high, or may vary in any other way. In the end, regions of good comparability are selected. Thus for the north of Europe one region is composed of Stockholm as centre, with Oslo and Helsinki as subordinate; a second region or system

[1] The full notation for the formula for D is as follows :—

Write $Q_0 = S(p_0q_1)/S(p_0q_0)$; $P_0 = S(p_1q_0)/S(p_0q_0)$ as before.

$w = p_0q_0$.

$x = p_1/p_0 - P_0$; $y = q_1/q_0 - Q_0$.

Write $\sigma_p^2 = S(wx^2)/S(w)$; $\sigma_q^2 = S(wy^2)/Sw$; $r_{pq} = S(wxy) \div \sigma_p\sigma_qS(w)$.

Then
$$\begin{aligned} r_{pq} \cdot \sigma_p/P_0 \cdot \sigma_q/Q_0 &= S(p_0q_0)\left(\frac{p_1}{p_0} - P_0\right)\left(\frac{q_1}{q_0} - Q_0\right)/P_0Q_0S(w). \\ &= \{Sp_1q_1 - P_0Sp_0q_1 - Q_0Sp_1q_0 + Q_0P_0Sp_0q_0\}/P_0S(p_0q_1). \\ &= \{P_1Sp_0q_1 - P_0Sp_0q_1 - Q_0Sp_1q_0 + Q_0Sp_1q_0\}/P_0S(p_0q_1). \\ &= (P_1 - P_0)/P_0. \end{aligned}$$

[2] The correlation is negative if higher relative prices are associated with lower relative quantities.

has Oslo as centre and Helsinki, Stockholm and Copenhagen as subordinate. By an ingenious method the regions are then compared with each other. A result is given on p. 70, where index-numbers are tabulated on two systems for Stockholm, Oslo, Copenhagen, Helsinki, Berlin, Brussels, Warsaw, Riga, Tallinn, Prague, Vienna and Switzerland. The whole process, which has involved an enormous amount of computation, is too complicated to summarise. It is claimed, and with justice, that such "indices" are superior to those formerly obtained from a "single" "international basket."

We may affirm that a satisfactory method has been found of giving a practical answer to the problem of comparison of retail prices internationally over a defined region where reasonable comparison is possible.

It is to be hoped that an allied, and *prima facie* more definite, problem will presently be attacked :—How are the *changes* in cost of living in one country to be compared with changes in another? Is it sufficient to quote simply the movements of the index-numbers of the cost in the two countries without analysis of their comparability? Or are all the conditions set out by Dr. Staehle necessary to make a comparison reasonable?

A. L. Bowley

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Social Judgment. By Graham Wallas. (London : Allen and Unwin. 1934. Pp. 175. 5*s*.)

Miss Wallas has done well to edit and publish the last unfinished work of her father. It is partly that we are glad to know what seemed to him in his last years to be the most important aspect of the problem to which he had devoted so much study, the problem—to quote Miss Wallas—"how knowledge of the nature of individual man may be used for the general good of mankind." But it is partly also because the illuminating quality of his thought is apparent in every fragment that he wrote. Graham Wallas had a genius for discovering new themes and for looking at old themes in a new way, transforming familiar material by that subtle blending of the personal with the universal which made him a great teacher and a superb talker. The value, therefore, of these introductory chapters as an inspiration to others remains intact, even though the more objective study which should have followed them was never written.

His thesis is that social judgment—the judgment that leads to action—requires a co-operation of reason with emotion. It is

necessary not only to "think out" a social problem, but also to "feel it out." He felt that this co-operation was becoming increasingly difficult owing to the division of labour which caused the pure scientist to eschew any attempts at the evaluation of ultimate social ends. Not only might this prevent mankind from reaping the full benefits of increasing knowledge, but there was a grave danger lest the desire to uphold the high prestige of science might lead to a depreciation of the methods both of the social philosopher and of the man of action, and this danger was enhanced by the tendency to regard pure science as at least the major, if not the only concern of academic teaching. In the course of his argument he touched briefly on many of the most intricate problems of social ethics and of methodology, but he was not able, in the part of his work which he had more or less completed before his death, entirely to disentangle the complicated issues involved.

His preoccupation with the unduly sharp antithesis made between reason and emotion appears to have obscured an important point. There are really three processes in question, not two. There is the first emotional response to a situation which creates a desire to act, then the scientific analysis of the situation and the possible means, and finally the ultimate decision which utilises this analysis but implies also a choice of ends. Between the two last there is, it may be, too little co-operation, but there is no necessary antagonism. The real enemy of scientific method is the first stage, or, rather, action which follows immediately on this stage. And the confusion arises owing to the ease with which the mind can persuade itself that it has covered the whole course, by rationalising its emotional urges. This having been recognised, two problems emerge. First, how can the necessary co-operation between science and judgment be achieved? It is dangerous to treat them as specialisms allotted to different minds, because in practice they must be combined in the same mind. The administrator must make use of science, while the scientist, if he be human, cannot be prevented from exercising judgment. Each is tempted to act independently of the other, although in half the field he may be an incompetent amateur. The second problem goes deeper. Is there, between the two, a field in which they must unite in a single process? What is the scientific status of that empirical analysis of concrete situations, where other things are never equal, which cannot claim the precision of logical necessity but which can estimate probabilities and which requires for this purpose a highly-developed technique, far removed from that easy

subservience to prejudice and emotion which science so much dislikes? Wallas has much to say on this, but the full answer could not emerge without the investigation of social institutions which it was his intention to make. To many it is, in fact, the question whether there can be such a thing as a science of Sociology.

T. H. Marshall

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The Future of Monetary Policy: a Report on International Monetary Problems by a Group of the Royal Institute of International Affairs. (Oxford University Press: Milford, London. 1935. Pp. 219. 10*s*. 6*d*.)

This volume constitutes the Final Report of the Study Group on International Monetary Problems: in it are embodied the conclusions which have emerged from a two-years' discussion of a distinguished group of bankers, economists and financial experts. Here, the Group is not concerned with outlining the problems or diagnosing causation, except where these are needed for exposition, but with the positive work of suggestion and solution. Clearly, therefore, this is an important contribution to an important subject.

Two objectives are recognised, with one dissentient, as the ends of monetary policy—the one, "continuity of values," the other, stability in foreign exchanges. The latter, however, is set down by the majority as an ultimate objective, and Exchange-stabilisation for this country is not recommended as immediate policy. "A system pretending to be international in a compartmentalised world is doomed to failure" (p. 24). On the other hand, some measure of reflation obtains general support; some members supporting public works programmes, others contenting themselves with cheap money, but all condemning currency depreciation as a method of price-raising.

To achieve its long-term aims, the Group makes several interesting suggestions, ranging from the recognition of B.I.S. deposits as central bank reserves to pleas for machinery for liquidating state indebtedness other than by default and for the creation of some credit institution for facilitating loans to communities suffering the pangs of reorganisation. To overcome the threat to "continuity of values" inherent in the presence of "bad" money, the proposal to make permanent the Exchange Equalisation Fund is endorsed, and the establishment of such institutions advocated in other economies sensitive to monetary disturbance.

In filling in the details of these proposals, the Report is generally marked by a realism which is often absent in such work. This, I think, is nowhere better illustrated than in the analysis of the dangers to be faced by a community concentrating its activities upon a narrow range of products. The diseconomies of specialisation are ably and valuably discussed, without, however, leading the Group to countenance economic independence. Yet here some observations will not pass uncriticised. The Macmillan Committee's comment on the new issues of 1928—quoted with approval on page 162—should be read with caution. One large concern, more prosperous to-day than in 1928, lost (according to the Stock Exchange) 75 per cent. of its equity capital. Not only investors in greyhounds and spring mattresses were frightened of their morning papers in 1931. The suggestion that foreign lending should take the form of investment in equities is fraught with dangers and difficulties without promising a solution of the problems discussed. The experiences of Chile and China are illustrative.

The main interest of the work lies in another direction. "Continuity of values" is a phrase used to denote stability of prices (to some members of the Group) as qualified by altering costs (to others). It is not clear whether continuity must ultimately be interpreted internationally or, by each country, domestically. Presumably, from the remarks upon the guidance of central banks, the latter is correct. The Group try to reconcile continuity with exchange stability by alleging their complementarity, and, as a qualification, by suggesting tentatively that exchange rates might be subject to revision. It is, however, by no means clear that they are complementary except in rather unusual circumstances. And as one of such circumstances may well be illustrated by the present, there is an appearance of inconsistency in the majority fighting shy of immediate exchange stabilisation. This leads one to suppose, what other parts of the Report also suggest, that continuity of values is interpreted with rather an expansionist bias. It is, of course, true that continuity is discouraged by widely fluctuating exchanges, and exchange stability by widely fluctuating prices. Yet these are not the only conceivable conditions, and the Report is driven to suggest that a rising money wage level and a readiness to allow gold imports to back expansion should both be adopted. This may well result in the abandonment by some countries of the continuity so earnestly desired. It must be held against the Report that it over-emphasises the necessity of stable exchanges for the develop-

ment of a world economy. Debtor countries will probably find it beneficial to tie their currencies to those of creditor countries—as, indeed, has broadly been done. But in the world as a whole—as between Lancashire and China and India in the old days, and by Japan to-day—trade can adapt itself to fluctuating exchanges, though it cannot tolerate control or collapse. Currency stabilisation to-day is desired less for itself than for the freedom which many think it must precede.

It is, therefore, impossible not to feel that the foundations of the Report are somewhat insecure, and that on the two main proposals there is more divergence of opinion within the Group than is visible at first sight. It is natural that a sharp cleavage should be advertised on immediate exchange policy. Exchange freedom may be valued for other than the not very convincing reasons advanced by the majority: it is hard to resist the suspicion that in a changing world much the same case will always be arguable for separating immediate from ultimate policy.

J. STAFFORD

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The Employment Exchange Service of Great Britain. By T. S. CHEGWIDDEN and G. MYRDDIN-EVANS. (London: Macmillan & Co. 1934. Pp. xiv + 310. 14*s*.)

THE scope of this volume is well described by its sub-title as "an outline of the administration of placing and unemployment insurance." The study was written at the request of Industrial Relations Counselors, Incorporated, of New York, as the first of a series making available the experience of other countries to those in the United States interested in their own recently formed Employment Service and in the current proposals for introducing unemployment insurance. The work is authoritative, as the authors are permanent officials with extensive experience in the Employment and Training Department of the Ministry of Labour.

In a foreword appropriately written by Mr. Winston Churchill, who as President of the Board of Trade introduced the Labour Exchanges Bill into the House of Commons in May 1909, reference is made to developments of the system during the past twenty-five years, including its adaptation to war-time recruiting of labour, the demands of demobilisation, the extension of unemployment insurance especially in 1920, and the heavy unemployment of post-war years.

While circumstances have caused the volume of insurance work to be greater than that of placing, the authors devote at least four-fifths of the text to the latter more constructive side of the Exchange Service's activities. Part I is introductory, reviewing population, labour supply, employment and unemployment. *Inter alia*, the authors indicate that there is no general tendency for women to replace men in industry, that about 26 per cent. of insured boys and girls are attached to the distributive trades, and that the numbers employed in agriculture continued to decline during the first ten or twelve years after the war.

Part II outlines the organisation of the Employment Exchange Service, with over 1,150 Exchanges and Branch Employment Offices, and the structure of a typical Exchange is described. Placing procedure is reviewed, including the special methods adopted for juveniles and seasonal workers. Measures for encouraging mobility of labour are also described, and it is claimed that, although the depression has greatly reduced the opportunities of successful transference from the areas suffering most from unemployment, the transfer schemes have made no small contribution towards increasing the mobility of labour. Thus, between August 1928 and June 1933 over 104,000 persons, of whom 93,169 were men, had been transferred from the depressed areas. An account is given of the various training schemes, and reference is made to the success of systems for reducing the surplus of casual labour, especially by registration of port workers, and to restrictions upon the number of new entrants into certain coal-mining occupations in areas where there is a surplus of miners.

Interesting statistics of placing are given, showing that the percentage of vacancies notified to the Exchanges which were filled rose from 83·3 in 1922 to 92·0 in 1932. A large increase is shown in the number of vacancies filled in certain industries, *e.g.* engineering, iron and steel, and textiles. The Exchanges place nearly one-third of the wholly unemployed workpeople who obtain employment in the areas in which they are registered. For women the placings indices are considerably higher than for men, while the number of juveniles placed by Employment Exchanges and Juvenile Employment Bureaux during 1932 was 321,059, or about three times the number in 1922. Approximately one in four of all engagements of juvenile labour is effected through the official organisations.

Emphasis is laid upon the fact that the use of the placing system by employers is voluntary, and that the Exchanges are in competition with other methods of recruiting. This has made

it essential to submit to employers only those applicants who are industrially best qualified for the jobs offered. It follows that offers of work through the Exchanges cannot and should not be used, except incidentally, to help in the administration of unemployment insurance as tests of the genuineness of claims to benefit. On the "genuinely seeking work" controversy the authors conclude that the system in operation from 1924 until 1930 tended "to defeat one of the objects for which the Exchanges had been set up, namely, to obviate the need for tramping after problematical work, and was stultifying the appeal to employers to engage their labour through the Exchanges rather than by the haphazard methods of advertisement or 'at the gate.'"

The insurance administrative system is reviewed in Part III, which includes the methods of dealing with direct claims, indirect claims where a trade union is responsible for the administration, proof of unemployment, and the computation and payment of benefit. The conditions disqualifying an insured person from right to benefit are also discussed, together with the special provisions applicable to seasonal workers and married women, and the reference of disputed claims to the Court of Referees. The volume concludes with about sixty pages of valuable appendices giving statistics, a list of the forms used and a description of the principal returns and reports compiled in the regular administration of the system.

The authors had completed their study before the administrative changes required by the legislation of 1934 were made and before the 1931 Census statistics were available showing the occupational and industrial distribution of the population. This, however, detracts little from the usefulness of the volume, which on most points of procedure is up-to-date, and which gives the information necessary for understanding the practical working of the system, while indicating its value as a factor in Britain's internal stability and in contributing to her resilience during the depression.

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The British Attack on Unemployment. By A. C. C. HILL, Jr. and ISADOR LUBIN. (Washington, D.C.: The Brookings Institution. 1934. Pp. xiv + 325. $3.00.)

IT has long been evident that the United States must one day adopt a comprehensive system of unemployment insurance. The great research foundations, which do the work of inquiry

and objective thinking which her government for the most part neglects, have therefore for some years been collecting and digesting information about the systems of insurance and relief which prevail in other countries. This study, undertaken by the Brookings Institution, is a welcome addition to—in parts an improvement upon—those already completed with the aid of the Rockefeller Foundation. It is all the more interesting because Dr. Lubin, one of the authors, is now United States Commissioner of Labor Statistics and was one of the advisory group who assisted in drawing up the recent report to the President on economic security.

All but thirty pages of the book are taken up with a descriptive and historical account of our system down to the passage of the Act of 1934. This is admirably done: the authors (of whom I believe Dr. Hill is mainly responsible for the detailed work) are to be congratulated upon the skill with which they steer their way through the confusion created by the successive statutes. They succeed in giving a clear, readable and reliable account—omitting unnecessary detail, yet sacrificing nothing of importance for their purpose—of the Employment Exchanges, of transference and training, and of relief works, as well as of insurance and relief and their finance. The inclusion in a flap at the end of the book of half a dozen specimens of the chief forms—including an unemployment book—used in the administration of the insurance scheme is a valuable addition to the statistical tables and explanatory notes which form the appendices. The American reader, for whom it is mainly intended, will find the book a useful and handy guide; and it may be recommended to students on this side of the Atlantic who have no time to read the reports of the Royal Commission.

Readers of this JOURNAL will be chiefly interested in the two final chapters, in which the authors, rather too summarily perhaps, state their main critical conclusions. They find the Exchange system admirable in many respects, but regret that the routine work of benefit payment has borne so heavily upon the staff that they have not had adequate time for the more important work of placement. They consider that compulsory notification of vacancies should have been enforced upon employers in the industries where recruitment is most haphazard.

They have no difficulty in disposing of the arguments—still to be heard in America—that the payment of unemployment benefit "demoralises" the recipient and hampers industry in its competition with the foreigner. They follow the majority of

our Royal Commission in favouring a sharp distinction between insurance and relief. The arguments of the minority against any distinction are not considered, for the authors hold that "insurance against unemployment is fundamentally no different from other forms of insurance." They favour, however, the inclusion of most of the classes of labour now excluded from the British scheme; they would adjust contributions and benefits according to earning power rather than according to age and sex.

In discussing the wider effects of State policy in this country, the authors wisely conclude that such spending on public works as has been carried out was distributed over too long a period, and in any case was undertaken at an entirely unsuitable stage of the trade cycle : its failure has no bearing on the controversy over the contention that public spending can promote recovery from depression. But their reiterated claim that mobility was hampered by the public works undertaken before 1928, because these were confined to the depressed areas, does not seem to me to have great force. I doubt whether effective migration from South Wales, for example, could have been any more rapid than it was in those years. Much more important, certainly, was the effect upon mobility of organised short time, made possible by unemployment insurance, among Lancashire cotton operatives, South Wales coal-trimmers and other workers. Our authors do not deal with this. They also go astray when they say: "The potentialities of the unemployed British wage-earner to profit from general lectures and discussions of history, economics, literature, and art, and to enjoy and profit by the public museums, have scarcely been tapped." That criticism is surely very wide of the mark. But these are after all only minor flaws in a conspicuously successful study of a complicated tangle of institutions in a foreign country.

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Theories of the Trade Cycle. By A. L. MACFIE. (London : Macmillan & Co. 1934. Pp. x + 198; 7*s*. 6*d*. net.)

THIS book is an attempt to present a comprehensive picture of current doctrines as to the causes of industrial fluctuations. After an initial brief chapter on "The Facts and the Problem" Mr. Macfie proceeds to examine in succession "real" theories, monetary theories, "savings and investment" theories and "psychological" theories. His approach is friendly but critical;

he is anxious both to stress the particular merits of each and also to modify and correct it with a view to fitting it into place along with its fellows in a coherent whole. A final chapter summarises the main results of his analysis, and poses, but does not discuss, the question whether the trade cycle can be cured without a radical reorganisation of the economic system.

An undertaking of this kind is both courageous and timely. It is not, of course, to be expected that a book which covers so wide a field in less than two hundred pages should represent a major work either of criticism or of synthesis. But Mr. Macfie has done good service both in that he has helped students of the trade cycle not to forget the whole in their preoccupation with one or two of its parts, and also in that he has laid an emphasis, unusual in these days of acrid controversy, upon the possibility of harmonising the apparently irreconcilable views of our leading thinkers. Unfortunately he has allowed himself to be deflected from his task as a peacemaker by the desire to make his book useful to students in their second year. He believes that it will "smooth their passage" from static to dynamic theory and will assist them when they embark upon the difficult study of the short period; in fact in his preface he expressly states that this is its main purpose. Now it is very doubtful whether the book is really suitable for beginners. Not merely is its style far from easy, but its contents are likely to prove at times definitely misleading. The student who is guided by Mr. Macfie will get the impression that everybody agrees with Mr. Hawtrey in attaching importance to fluctuations of stocks in the hands of dealers; that there is no essential difference between the published views of Mr. Keynes and Mr. Robertson; that the only fatal objection to under-consumption theories is their failure to distinguish between savings and investment; and that the "psychological" theory of Professor Pigou can be dismissed on the ground that errors are not psychological and cannot, therefore, be either optimistic or pessimistic. I am not, of course, suggesting that Mr. Macfie intends any of these conclusions to be drawn from what he says. But I am sure that one or more of them *will* be drawn by any unwary student who uses the book in the way in which Mr. Macfie wants it to be used—namely, as an introduction to further reading. And, more generally, I am not at all convinced that it is wise to inculcate beginners with the belief that most writers on the theory of the trade cycle are in fundamental agreement and differ from one another only in emphasis—justifiable as we no doubt all hope that belief will turn out to be.

Moreover, the fact that Mr. Macfie has addressed himself to students as well as to his colleagues has led to his tolerating gaps and loose ends in his book which seriously impair its value as a contribution to the synthesising of trade cycle theories. The chapters on "real" causes and on under-consumption theories are not merely rather superficial in themselves but are scarcely related to the rest of the book. That on "psychological" theories is devoted practically exclusively to an interesting but disproportionately long and not very relevant analysis of the emotional and instinctive roots of optimism and pessimism. And it is only in the central part of the book, which deals with the doctrines of Mr. Hawtrey, Professor Hayek and Mr. Keynes, that he effectively settles down to his task of correlation and synthesis. These chapters are extremely stimulating. But they are far too short to do justice to their theme; nor is there room in a short review to discuss the issues which they raise.

There is an analytical table of contents and a short bibliography, but no index—a serious omission in a book of this type, in spite of the author's claim that it is not necessary.

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La Crise de la Monnaie Anglaise (1931). By S. J. Catiforis. (Paris: Recueil Sirey. 1934. Pp. 210. 30 *francs*.)

In tracing the causes of our departure from the gold standard, this book goes back to the conditions existing in 1925 and earlier. Necessarily the main theme of the argument is familiar: stabilisation at too high a value and the subsequent failure to carry out the necessary deflation. But the book commends itself by its lucid style and the care with which the relevant facts are assembled.

Dr. Catiforis distinguishes between the "technical" and "economic" deficiencies of the 1925 stabilisation. Under the former head, his main point is that our gold reserve was from the first inadequate. This is no doubt an arguable view, but it is unsatisfactory to base the argument mainly on the relation between the gold reserve and the Bank of England's internal liabilities. I am also surprised that the author should find fault with the character of the Bank's assets, on the ground that they should have included a greater proportion of commercial paper.

By the economic conditions of stabilisation, Dr. Catiforis means the appropriateness of the rate, given all the other conditions. He finds that the adoption of the old gold parity was justified on a comparison of English and American prices, but that

this rate became too high as a result of the excessive devaluation of the continental currencies. It seems to me that he relies unduly on an elementary purchasing power parity theory in the first part of this conclusion. The more general conclusion that sterling was overvalued is supported by a study of the Board of Trade balance of payments figures and other evidence of increasing short-term foreign indebtedness.

The policy adopted by the Bank of England in this situation is fairly described as the passive one of waiting for something to turn up in the form of a rise in world prices. Dr. Catiforis shows himself well aware of the difficulties in the way of an active policy of deflation. But I think he makes too much of the easy argument that the Bank failed to respond appropriately to gold movements. Apart from the fact that the loss of gold was by no means continuous, there is the consideration that if the Bank had adopted the obvious means to avoid a net loss of gold, the result might have been achieved through a further increase of short-term foreign indebtedness combined with a decrease of imports as a result of increased unemployment, leaving the underlying situation rather worse than better.

In his last section Dr. Catiforis gives a useful summary of British policy since the departure from the gold standard. His account of the Exchange Equalisation Account and its operation is conspicuously sympathetic. His later statement that the pound has been somewhat undervalued is hardly supported, however, by the figures which he cites for the balance of payments.

The broad conclusion of the book is that we made the mistake of being in too much of a hurry to return to gold in 1925, and that we are not likely to repeat that mistake.

In a short review points of disagreement tend to receive disproportionate prominence. Whether right or wrong, the author's comments add interest to what is in any case a very useful summary.

P. Barrett Whale

The London School of Economics.

Treasuries and Central Banks. By D. W. Dodwell. (P. S. King. Pp. xiv + 218. 10*s*. 6*d*.)

Mr. Dodwell has written a very useful book. He does not, it is true, remove the veil of secrecy which has always covered certain important aspects of his subject. In fact he has drawn his information almost entirely from sources already public. But it is a great advantage to have the facts brought together and

presented in a coherent system. Above all, the author is to be praised for his clear-headedness—his freedom from those vague, unanalysed presuppositions with which writers on the practical problems of finance are so often infected.

Apart from a general Introduction and Conclusion, the book deals with the relations between the Treasury and the banking system in the United Kingdom and in the United States. The treatment is historical in form and in each case a division is made between the pre-war and subsequent periods. The account of the English relations is commendably clear, and should be found useful for teaching and reference purposes. To most English readers, however, the chapters on America will be the most interesting parts of the book—particularly the accounts of the old Independent Treasury system and of the way in which Treasury balances have been managed since the war.

Many will be surprised, I think, to learn that whilst "the greater part of the (U.S.) Government receipts and disbursements are handled through the Federal Reserve banks and their branches," the Reserve banks have normally held only a comparatively small part of the Treasury balances. A much larger part has been held by the commercial banks, chiefly as "special depositaries." In form these special deposits are constituted by allowing these banks to retain their own subscriptions to Treasury certificates of indebtedness on deposit, until the money is required by the Treasury. But as the certificates are repaid each quarter from the proceeds of the quarterly tax collections and then immediately replaced (in large part) by new issues, the effect, as Mr. Dodwell shows, is substantially the same as though the taxes were left as deposits in the taxpayers' banks until the Treasury required the money. In principle, granted the solvency of the commercial banks, Mr. Dodwell considers that arrangements of this kind may disturb the monetary system less than the concentration of Government funds at the central bank.

An interesting point discussed in the English part is the effect of the concentration of tax payments in the early months of the year, now that there is the possibility of returning the money to the market fairly speedily through the repayment of Treasury bills. Mr. Dodwell finds that a certain reduction in the reserves of the joint stock banks still takes place, and so far as this is avoided by the repayment of Treasury bills, he considers the effect only a little less deflationary. His treatment of the point is hardly full enough, however, to be entirely convincing.

On the question of the relations between Treasuries and

Central banks in the determination of general credit policy, Mr. Dodwell adopts a sensible middle view. A working compromise has to be found between political control and central bank independence, the precise form of which must depend on the traditions and institutions of each country.

P. BARRETT WHALE

Social and Economic Reconstruction in the United States. By H. B. BUTLER. (Geneva: International Labour Office. 1934. Pp. viii + 401.)

The New America. By SIR ARTHUR STEEL-MAITLAND. (London: Macmillan. 1934. Pp. xiii + 238. 10*s.* 6*d.*)

THE I.L.O. Report on the economic achievements of the New Deal is a lucid and comprehensive analysis of the legislation of the 73rd Congress, and of the administration of the new Acts up to July 1934; in this field it is likely to remain for some time the standard work of reference. The making and administration of codes under the NIRA is notoriously a subject ill adapted to descriptive generalisation, but Mr. Butler has threaded his way through the labyrinth with confident ease, and the whole book is unusually competent.

In the United States, however, political action is determined as much by personalities as by economic beliefs. Mr. Butler is certainly aware how large a part individuals have played in shaping the legislation of the New Deal, but his official position probably prevents him from discussing personalities in his book and so giving greater life to his narrative. He can tell us just how things happened and what the results were, but not why they happened just as they did. *The New America* might reasonably be expected to fill the gap. Sir Arthur Steel-Maitland has held office in a Conservative Government in this country; and it would have been most interesting to have his opinion not only on the measures of the most "Radical" Administration which has ever governed the United States but also on the men who are running it.[1] He has not given it. It is clear that he admires the President, is sympathetic with the social ideals of the Administration, and on the whole appreciative of their performance; but he has preferred to mention the chief actors by name as little as possible, and not to sketch their characters at all. A chief difficulty in the writing of contemporary history is that, if contacts are to be

[1] This review was written shortly before the late Sir Arthur Steel-Maitland's sudden death, which all who are interested in industrial relations will join in deploring.

preserved, the historian cannot write freely about those statesmen whom he knows best.

The picture of the New Deal legislation is therefore over-rationalised, and logical reasons seem to have been found for behaviour where none actually existed. Both these books admit that the President's own wishes have been of supreme importance; but they do not point out that, while tolerably clear about ultimate aims, he has an open mind about methods and is always in touch with a set of advisers (ranging, say, from Dr. Tugwell to Mr. Baruch) who can be relied on to give him a wide selection to choose from. Two reasons predominated in the decision to leave the gold standard in 1933. The first was that the farmers were threatening a general strike and martial law had been declared in Iowa; serious trouble might be (and was) averted if the Administration gave proof of a determination to get something done. Second, all his advisers agreed that prices would rise sharply if the dollar was devalued, and greatly exaggerated the possibilities for good or evil. Thinking a rise in prices desirable the President went off gold. It is true that the result was to give him a free hand in domestic policy without fear of international repercussions, but this was not an original reason for the decision. After giving devaluation an extended trial he became convinced that such rise in prices as there had been was mainly due to increased costs under the NIRA; and the dollar was again tied to gold. The bias of the Administration in monetary policy has always been in favour of " sound " finance.

Neither Sir Arthur nor Mr. Butler supports the view that the President should have aimed at recovery first and reform afterwards, but implies, on the contrary, that such a course would have been quite impracticable. The Acts which made possible the abolition of child labour, official recognition of trade unions, and the setting up of the Tennessee Valley Authority, for instance, could only have been passed at a time when every member of Congress wanted something done quickly; and the President showed his usual political skill by making it clear that the more obstinately anyone held up a measure which he disliked, the longer would be delayed the reforms of which he approved. To do this Roosevelt had to offer some concession to every section of opinion; and that is the chief reason why it is so hard to deduce from his legislation the economic philosophy which inspired it.

Sir Arthur is very critical of the usefulness of public works during a depression, but his arguments are unconvincing; and Mr. Butler is content with the reminder that " expansionist

methods are carrying the burden not only of recovery but of reconstruction. . . . Without the programme of extraordinary Government expenditure . . . it is highly questionable whether parts of the reconstruction programme could be carried through without bringing the economy of the country to a standstill." Neither writer stresses sufficiently the remarkable achievement of the Civil Works Administration which was employing four million people within two months, on works whose value Sir Arthur unjustifiably disparages. Housing is the one form of public works for which Sir Arthur shows enthusiasm, but though one must agree with him about the need for a Government housing programme it is possible to have doubts about its timing. It seems only too probable that building activity will be concentrated on the upswing of the trade cycle, and that its cessation will intensify the next depression.

Each book has a most instructive chapter on industrial relations, and some of Sir Arthur's comments are very shrewd. Mr. Butler emphasises that "any permanent change in the distribution of income in favour of the wage-earners cannot be consolidated otherwise than by organisation on their part"; and the strength of the company union is at once significant. It is due partly to the craft organisation of the trade unions, partly perhaps to the extent to which some of them are dominated by racketeers, and partly to the prosperous conservatism of the A.F. of L. leaders, with whom the ordinary unskilled labourer can feel nothing in common. But Sir Arthur is surely too optimistic when he writes, "Moreover, if there are several large firms in an industry, each with its company union, the natural development will be for these unions to coalesce in course of time into one independent industrial union, which will be stronger and better led than any group of craft unions would have been." It is precisely in the hope of preventing any such amalgamation that company unions are favoured by the management.

It is inevitable that a review should stress points of difference rather than of agreement, and those who do not wish to go into the subject in great detail will find in *The New America* an excellent sketch of the history of the New Deal. All the essential facts are there, and in general the comments are well-informed and sensible. It is especially gratifying to find a firm insistence that recovery in the United States is inevitable, and that the danger is that increased business activity will lead to an undue inflation of credit. The member banks have over $1,800,000,000 of excess reserves. But it is a pity, when the President is considering how unemployment

relief can best be placed on a permanent basis, that Sir Arthur should lend his support to the insurance principle. If premiums really varied for each worker with the risk of his unemployment, and if the amount of unemployment was within the control of either worker or employer, a case could be made out for it. But in England to-day the " insurance principle " is simply a shorthand for the proposition " funds for unemployment relief can best be raised by a tax on employment," and there is little reason to believe that this proposition is true.

C. H. P. GIFFORD

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Führer durch die Krisenpolitik. By FRITZ MACHLUP. (Wien : Julius Springer. 1934. Pp. xv + 232.)

THE call for simpler economics, for more instruction of the lay mind by economists, is answered by Dr. Machlup's book. It is not intended for economists, nor is there any analysis in it for them. It might have been called economic fallacies in proposed remedies for trade depression. The range of topics considered is wide, including expansion of credit, creation of employment by investment, reduction of the burden of debts, national self-sufficiency (*Autarkie*), interferences with foreign trade, monetary reform, saving versus spending, and planning.

The possibility of " cranking up " the economic system by an expansion of credit is treated first, and it is unequivocally condemned as a remedy for depression. A temporary stimulus can be achieved, but depression is sure to follow because credit must be progressively expanded for prosperity to be sustained. The existence of unemployed instruments does not make the case for credit expansion more favourable : the employment of them involves the use of " fluid capital," and if this is provided by extending credit the nemesis is certain, because credit cannot be expanded indefinitely. When the crisis occurs it becomes clear that there has been mal-investment of resources, that capital has been destroyed, which is the cause of the crisis. This argument is central to the whole book ; in fact it gives the book its systematic character.

It is a striking fact that remedies appear much more prominently than causes in Dr. Machlup's book. The reason is not far to seek : there is in his view only one major cause of depression, and that is destruction (or consumption) of capital. No proof of this is given—nor is it called for by the author's view of the nature

of the book—but it is assumed to be the chief if not the sole cause whatever the manner in which it is brought about. The result is that the proposed remedies lend themselves to popular discussion much more readily than they would if there were not this simplicity in the view of causes. There is a certain beauty in the simplicity of the recurring theme. If it is a question of spending versus saving, the Spartan course is to be preferred. An increase in spending leads to stagnation in the stages of production more remote from consumption. Idle capital goods lose their capital character; their existence is a sign of capital consumption. Failure to realise this springs from the twin errors of regarding all productive instruments or all money as capital. If equipment is ídle the expansion of bank credit can never lead to a fuller use of it because the credit cannot be granted long enough to allow the process of production to be completed. More capital will be consumed.

In keeping with the assumption that capital consumption is the main cause of crisis there is a cavalier rejection of deflation as a cause. It is allowed that deflation may occur through the hoarding of cash and deposits. This, however, is regarded as an unpleasant accompaniment of the "confidence crisis," and nothing more is said about it, except that an extension of credit is no cure for it. In fact it appears that an expansion of credit can never play a useful part in combatting depression. For example, in the case of unduly high real wages which Dr. Machlup regards as a major cause of capital consumption, if they are rigid it is no use expanding credit as an indirect method of lowering them, because relative prices are thereby distorted, mal-investment occurs, processes are started which cannot be completed; in other words, it is inflation and therefore it is no remedy.

The main substructure of the book is still debatable matter. It may be that fruit will be yielded in the near future by inquiry into the adequacy of this theory as an explanation of depression. Perhaps there are only differences of emphasis even now, yet the fact is that capital consumption is not universally accepted as the major or the sole explanation of crises. There are some parts of Dr. Machlup's book, however, behind which all professional opinion will be marshalled, and of these the most important are those which are embraced by the word *Autarkie*—all efforts to achieve national self-sufficiency and to stifle international trade. State policies of this kind are castigated by Dr. Machlup with the vigour of Bastiat. The ridicule is so great that it seems impossible that the fallacious beliefs should survive it. Unfortunately the

thought and effort required to read even this simple book are not likely to be forthcoming from large numbers or from statesmen.

REDVERS OPIE

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Free Banking: an Outline of a Policy of Individualism. By HENRY MEULEN. (Macmillan. 1934. *7s. 6d.*)

THIS volume is a new and revised edition of the author's *Industrial Justice through Banking Reform* which appeared in 1917. Mr. Meulen ranges himself among the critics of monetary and banking orthodoxy, but at least he can write clearly and, unlike many of his fellow-critics, he does not invent a new terminology to make confusion more confused. His defects of exposition are in the main confined to some unnecessary repetitions, and to a too frequent use of question-begging phrases like "history shows" and "experience teaches." It is also rather hard to be told that "politicians and economists were unable to assign a reason for the sudden blossoming of foreign industry" (p. 205) in the nineteenth century.

There are three main contentions in the book. First, the various "social" problems which occupy the attention of reformers are merely results of a single cause which is said to be the lack of demand for labour among employers, and that in turn is said to be a problem of distribution. This problem of distribution, however, requires for its solution an increase in consuming power which will secure higher wages to the worker, and that can only be done by providing a "means whereby capable manufacturers or workers may be credited with cheap capital—an order on the excess product of the community—to enable them to undertake production" (p. 36). Among other things, the shortage of purchasing power is said to be a cause of industrial monopolies and of over-expanded business units.

The two remaining contentions are logically distinct, although they are rather taken together by the author. One involves an attack on the gold standard system as it functioned particularly in this country, and the other involves an attack on legal restrictions on banking. These are logically distinct because it is at least possible to have "free" banking with a gold standard system. With regard to the gold standard system, Mr. Meulen sees in the periodic financial demands for gold the major cause of commercial crises. "In sober confidence I advance the

statement that the withdrawal of gold in times of prosperity and high prices, or in times of strong foreign demand, is a far more frequent cause of financial crises than excessive speculation on the part of manufacturers and merchants" (p. 177). There is also the fact that a free market for gold leads to more numerous bank-rate changes which are disturbing to trade and industry. In that connection, the author sees much virtue in the old option-clauses which in the eighteenth century governed the redemption of bank notes in Scotland, and which has its counterpart in those regulations which in other countries protected the central bank against the obligation to make immediate payment in gold if that should be inconvenient.

The third contention claims that the insufficiency of purchasing power has resulted from the legal limitations imposed upon the banks of the country. "Our chief need is for freedom for any type of bank to set up which can command confidence in the district where it operates. . . . I see no reason also why industrial firms of repute should not issue their own notes in wages to their work-people" (pp. 315–16). The success of eighteenth-century banking in Scotland is attributed to its freedom from interference. It may be remembered that a century ago, Thomas Joplin was attributing this success to the joint-stock system of banking. The country banks in England were "free" and yet banking failures were frequent. Mr. Meulen does not think that safeguards are necessary to protect the public against banking extravagance. "The dangers attributed to free banking are mainly State-created. Freedom would enable the community to set up perfectly adequate protection for its credit system" (p. 379).

To the question as to why cheap money rates do not generate revival quickly, Mr. Meulen replies that "the banks are offering only either short-date loans or long-term loans against gilt-edged security. Let the banks offer to take a little more risk in long-term loans, and they will find no lack of borrowers" (p. 420).

Mr. Meulen is aware of the criticism that "free" banking may generate over-issue, but he has no convincing reply to offer. He is mainly preoccupied with what he regards as the dangers of limitation. The statement that Bank of England loans after 1797 "had not inflated the home currency, since they were for the most part used abroad" (p. 101), is hardly convincing. Nor is the statement that quantity theorists have failed to "*distinguish between the effects of a fresh supply of*

money from a gold mine and that from a bank; hence they omit to remark the difference between a permanent and a temporary rise of prices" (p. 305). There is no adequate discussion of the foreign exchanges and of the effects of fluctuations in these rates upon trade and industry. There is no attempt to deal with the gold standard as an international system which relates in some way the price structures of different countries, and no examination of the function of gold movements in connection with that international system. This is important because the main modern defence of the gold standard system is based upon its international implications.

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Insurance Funds and their Investment. By F. W. PAISH and G. L. SCHWARTZ, Sir Ernest Cassel Lecturers in Commerce in the University of London. (London: P. S. King & Son. 1934. Pp. 117. 4*s.* 6*d.*)

THIS little book is written for the student, not for the expert. The authors claim that whereas there are many books dealing with the resources and investment activities of banks, there is none dealing with insurance in the same way. Their idea was to co-ordinate—for the help of "the general student of economic problems"—the material lying in scattered papers, for the most part written by actuaries for their professional associations and conferences. But I doubt whether the general student of economics can be helped by a book which for more than half its entire length gives a technical account of the origin and nature of insurance funds, and for the rest is content to recite the main facts of investment experience from 1890 to the present time. Nowhere do the authors allow discussion of the general questions concerning insurance which a student of economics—or the expert for that matter—might be interested in. For example, to what extent do life insurance companies provide a channel for the flow of savings into investment? Can the directors who are in charge of life insurance funds contribute anything to the "real investment" of the national savings? Would it be necessary for a National Investment Board, which had been set up to direct the flow of savings into planned investment, to take over the investment functions from the directors of insurance companies? What is the case for the business of insurance being conducted by private enterprise as against

national insurance conducted by the State? These are a few of the vital and fundamental questions which the authors leave unanswered. They are content to make the bald statement, which might have come from any reactionary company director, that the "insurance business has no responsibility for the public finances, nor for the general economic situation of the country. Its sole responsibilities are to its shareholders and, most of all, to the policy-holders." It is a pity that the authors should have avoided discussion of broad insurance problems from a national or social point of view.

Coming down to the detail of the book, there are not a few occasions when lucidity appears to have been sacrificed to brevity. For example, the chapter on the "survey of insurance office investments" contains a number of tables some of which do not state clearly whether they refer to composite or life offices. And in the same chapter, discussing the course of interest rates, a table is given showing the yearly average price of $2\frac{1}{2}$ per cent. Consols from 1890 to 1933, but without mentioning that the stock carried interest at $2\frac{3}{4}$ per cent. from 1889 to April 1903. Other minor inaccuracies of this sort could be mentioned.

In the chapters on "investment experience" the authors make some surprising statements. On page 97, after mentioning that the heavy decline in ordinary shares in 1929–30 had very little direct effect on insurance finance, they go on to say: "It was a matter for congratulation that insurance business in general had not been swayed by the arguments of the 'enlightened' investment advocates." The authors have either no recent experience of investment or have shut their eyes to the fall in the rate of interest. Clearly, if interest rates continue to fall much farther, those offices with a relatively high proportion of ordinary shares and a low proportion of mortgages will do better than offices which are not so "enlightened." The table showing the price of ordinary shares stops at the end of 1932. Since that date ordinary shares have risen very considerably.

On the question of the fall in the rate of interest I suspect the authors of having a "complex." They appear to regard the conversion of 5 per cent. War Loan as a manipulated, artificial measure. This on page 110: "The Government staged a huge conversion operation. 'Staged' is an appropriate word, since the procedure was invested with a considerable amount of artificiality and theatricality. The highly abnormal conditions of the moment were exploited to jockey the public into a swift decision on the merits of an irredeemable bond." They seem oblivious of the fact that there was an economic crisis, that

millions of men were out of work and that the rate of interest had to be cut in order to stimulate a revival in the capital investment industries and reduce the burden of the internal debt. The Government had a perfect right to exploit the glut in money and the isolation of the London money market created by the suspension of the gold standard.

E. H. DAVENPORT

Une Expérience Américaine : L'Investment Trust. By PHILIPPE SCHWOB. (Paris : Librairie du Recueil Sirey. Pp. vi + 197. 30 *frs.*)

DR. SCHWOB'S expressed object in writing this book was to examine the working of the American investment trusts with a view to coming to some conclusions regarding the desirability and possibility of their development in France, where the subject has been raised by the recent introduction into the Chamber of Deputies of a Bill to remove the double taxation of dividends which has hitherto barred their formation. The resulting work will, however, be of value to many others besides those for whom it was expressly written, for Dr. Schwob provides not only a brilliant analysis of the principles and practice of investment trusts in the light of American experience, but also throws a light upon some interesting aspects of the recent financial history of the United States and of the pre-war and post-war capital markets of France. His description of the use which the French Government made before the war of its power to influence the direction of foreign investment, and of the results of its policy in the shape of the immense loss of French capital in Russia, may well act as a warning not to place too high a value on the expectation that Governments may control the flow of investment capital more wisely than its owners.

Dr. Schwob's final conclusions are not such as to bring comfort to those who look to the principle of the investment trust to enable the small, lazy or ignorant investor to go outside the circle of gilt-edged securities without increasing his risk. The fixed trust he condemns out of hand, on the ground that it cannot take a profit, but must take a loss if a dividend is passed. "This consideration alone destroys that balance between the chances of gain and loss which diversification provides." To the management trust he gives far more detailed consideration, but comes to the conclusion that while "the investment trust would be an excellent instrument if it were placed in the hands of real trustees" in France, as in America, "the principle is rarely in accordance with reality." Despite all efforts at Government regulation, the

investment trust is unlikely to provide a means of absolving the investor from his primary responsibility of looking after his own investments.

F. W. Paish

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The New Survey of London Life and Labour. Volume VIII. London Industries, III. (London: P. S. King & Son, Ltd. 1934. Pp. xv + 323. 17*s.* 6*d.* net.)

This volume aims to "complete the New Survey of London Industries, so far as it has been practicable within the available time, space and resources," and deals with occupations covering about a million workers, the treatment being on lines similar to those of the two previous volumes concerned with industries. Altogether it is calculated that the whole Industrial Survey has covered about 3¼ million, out of a total occupied population in Greater London of 4,100,000, or roughly four-fifths of the whole. Of those omitted, a certain number, like the street-traders and workers in street-markets, have been dealt with elsewhere in the Survey.

The industries in this volume, as the Director of the Survey points out in another of those illuminating introductions which add much to the value of the work, are in no sense a homogeneous group. They include road and rail transport, the public utility services (gas, water, and electricity), hotels, restaurants and catering, and "a group of highly interesting and characteristic London industries, including the working of precious metals and jewellery, and the manufacture of clocks, watches, scientific and musical instruments." These last show appreciable survivals of the old handicraft trades, alongside of developments of mass production in other branches. Elsewhere, notably in the public utility services, the organisation is often much more definitely of the latter type. Finally, clerical work which "is not an industry in itself, but an occupation or service common to many industries," employs in Greater London, inclusive of the higher grades, close upon 550,000 workers, or about 13 per cent. of the whole occupied population of Greater London. Of these well over two-fifths are women, who have shown that increase relatively to men which is common to nearly all London industries.

Other modern tendencies are illustrated by this varied group of occupations. In most of them mechanisation and mass production are present to a greater or less degree; but, as in other London industries, various stages of development exist side by side in the same trade. An interesting illustration of this is

found in the description of clerical labour, where "the Civil Service rightly claims to have been the pioneer of mechanisation in this country." So, too, the tendency of the large rationalised amalgamation to improve wages and conditions again appears, and the Director emphasises "the wholly beneficial action of mechanisation in lightening physical toil and eliminating specially exhausting, unhealthy or disagreeable tasks."

Conditions in the Catering Trades, for which the establishment of a Trade Board has been proposed, appear to indicate "pockets" of under-payment, though most earnings seem reasonable. In some sections, also, there is evidence of bad general conditions, such as extra hours without payment for overtime or interrupted meal-times; there is "a general lack of seats, as prescribed by the Shops Act (1912), and in some establishments, where they are provided, waitresses 'hear of it' if they use them."

The Survey makes it clear that against the displacement of labour due to mechanisation, some beneficial results must be set. "If mechanisation has shared in the causation of unemployment, it has had a powerful effect in diminishing one of the worst forms of under-employment, viz. intermittent and casual labour." Nor must it be forgotten that the influences of the world depression, properly emphasised in this volume, accentuate temporarily the evils of mechanisation, which should thus be reduced as trade improves.

The general standard set by the earlier volumes of the Survey is well maintained here; and the general presentation is both interesting and suggestive, the variety of the industries dealt with contributing in many ways to the general interest. The Survey is now nearing completion and it is announced that the next volume will be the concluding one of the series. N. B. Dearle

Wages, Cost of Living and the National Income in Sweden, 1860–1930. By the Staff of the Institute for Social Sciences, University of Stockholm. (London: P. S. King, Ltd. 1933.)
Vol. I. The Cost of Living in Sweden, 1830–1930. By Professor G. Myrdal. (Pp. 251. 12*s.* 6*d.*)
Vol. II. Wages in Sweden (Manufacturing and Mining), 1860–1930. By Professor G. Bagge, I. Svennilson and E. Lundberg. (Pp. 579. 25*s.*)

The Scandinavian Unemployment Relief Program. By C. J. Ratzlaff. (University of Pennsylvania Press and Humphrey Milford, Oxford University Press. 1934. Pp. xviii + 211. 8*s.* 6*d.*)

Sweden has long been famous for the excellence of its vital statistics; but the available sources for time-series analysis of

wages, prices and the national income were until recently rather limited. Thanks to the generosity of the Rockefeller Foundation, the Social Science Institute of the University of Stockholm has undertaken to remedy this deficiency. An excellent start has been made in the volume on Wages in Manufacturing and Mining by Professor Bagge, the author of one of the best modern treatises on the theory and practice of the labour market, assisted by Messrs. Svennilson and Lundberg. They examined the books of 160 concerns and, by selecting "typical" workers in each occupation, were able to trace the course of hourly and annual earnings over the period. The "kinetic" method, which concentrates on rates of change, does not yield dependable figures of the absolute level of earnings at any time or place; but its use is amply justified in this case. The result is an exhaustive source-book covering the earnings of males and females in all branches and occupations within Manufacturing and Mining. Research workers will also welcome the detailed studies of separate establishments which occupy a half of the volume.

The various occupations fall into groups according to the magnitude of the rise of men's wages between 1885 and 1910–13. It was found that the growth of annual earnings in the ore-mining and metal industries ranged between 70 and 81 per cent., whereas the group comprising mineral and stone, paper mills, food products, leather, rubber and chemicals registered increases ranging between 104 and 117 per cent. Real annual earnings rose by 140 per cent. from the 'sixties to the eve of the War: calculated on an hourly basis the figure becomes 163 per cent. The upward progress was continued in the period 1913–30, the real hourly earnings of males rising by 63 per cent.

To trace the movement of the cost of living over a century is a hazardous project. Professor Myrdal, who was responsible for the Cost of Living volume, faces up to the theoretical and statistical difficulties in the opening chapter. The reader hears the inner voice of the cautious theoretical economist restraining the adventurous urge of the statistician; but fortunately the battle does not result in a stalemate. Professor Myrdal has made skilful use of the primary data, which included the nineteenth-century records of price scales originally introduced by provincial authorities to facilitate the transition from payments in kind to a monetary economy. The general cost of living index-number is built upon annual "semi-wholesale" prices of commodities in each province and two working-class budgets, one relating to 1841–60 and the other to 1881–1900. Interesting evidence is

afforded of inter-local dispersion of prices and coefficients are given to show the tendency towards uniformity during the period. The Appendix by Mr. Sven Bouvin brings the inquiry up to 1931, when the general cost of living stood at 58 per cent. above 1914. This book is a valuable contribution to a subject of peculiar difficulty. The remaining volumes of this inquiry, particularly that on the National Income, will be eagerly awaited.

Professor Ratzlaff's book succeeds in giving a clear picture of the parts played by cash payments, unemployment insurance and public works in the relief systems built up in the Scandinavian countries. In Denmark the Government and the local authorities subsidise the unemployment funds of the trade unions. Norway has a State-organised scheme on the Ghent model covering all wage-earners. Ever since 1884 the trade unions in Sweden have distributed out-of-work pay to their members; and though the demand for a compulsory State system has become very insistent, that step has not yet been taken. Those economists who like to assume that the rigidity of the wage system would be greatly reduced if trade unions were to be responsible for providing unemployment benefit will find Scandinavian experience disappointing.

The "work principle" rather than that of "maintenance" has always been the key-note of the Scandinavian attitude to the unemployment problem. But in a severe depression the proportion of the workless that can be absorbed in the ordinary public works is relatively small; and even in Sweden one-half of those out of work receive no assistance. The wages on public relief works in Sweden in recent years have averaged about 15 per cent. below trade union rates. Professor Ratzlaff gives a full account of the attitude of employers and workers and the administrative difficulties encountered in the three countries. His conclusions are mostly of a negative character, stressing the limitations of insurance and the dangers of excessive cash relief. One defect of his analysis is his failure to bring out the significance of the recent public works policy of the Swedish Labour Government in relation to the budget. The old notion of relief works is giving way in Sweden to a new technique whereby the volume of public investment will be regulated in accordance with the dictates of monetary policy and the needs of the labour market.

BRINLEY THOMAS

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The Decasualisation of Dock Labour; with special reference to the Port of Bristol. By W. HAMILTON WHYTE, M.A. University of Bristol Studies, No. 2. 5*s*. net.

IN this book the author endeavours to set forth the experience of the port of Bristol in decasualising dock labour, and to indicate its bearing on the general problem. Since the Shaw award the use of lists of registered workers who are given preference in employment has become general, but the reduction of the labour surplus has been complicated by the peculiarities of the National Insurance system as applied to port labour, and by the relatively high rates of pay. The author's case is that partial decasualisation under these conditions has created new problems of immobility, has led to an uneven distribution of wages and benefit, and has encouraged, rather than otherwise, the retention of a large surplus. Mr. Whyte argues that in Bristol the total sums paid in wages and benefit are sufficient to provide a living wage to all registered men, and that a better distribution of work would make it possible to pay a guaranteed minimum regardless of the period of employment. He is willing to see the dock industry excluded from the National Insurance scheme altogether, and suggests as an alternative that the men should be paid three-quarters of the difference between earnings and a standard 40*s*. The money for this would be found from annual fees paid by the employers, and perhaps a levy on wages. He rightly stresses the importance of changing from daily to weekly wage payments.

In support of his proposals the author submits some interesting figures of employment and wages, but the evidence does not appear to be at all points conclusive. Whether it is financially possible or not to provide maintenance for an under-employed surplus depends on the size of the surplus and the standard of income to be provided. It is admittedly difficult to define the size of any such labour surplus, but the figures given do not leave a completely clear impression of its magnitude. The number of registered dockers is stated to be equal to the peak demand, twice the average demand, and therefore in excess of the port's requirements, but it would seem from Table III that the average number of days worked per man was over 300 in every year except 1926. Some workers get £4 14*s*. 8*d*. in wages and benefit, and others only £3 18*s*. 3*d*., but the latter figure is scarcely low enough to justify the title "surplus" in the sense of an under-employed group needing maintenance. Even if benefits were withdrawn, the earnings are well above the standard 40*s*. suggested. No state-

ment is given of what proportion of the men would gain by the guarantee of this standard; more evidence on the dispersion of earnings about the averages quoted would have been helpful.

There are two useful notes on decasualisation in Hamburg and Rotterdam.

P. FORD

The Economics of Shelter. By ALBERT FARWELL BEMIS. (The Evolving House, Volume II. Cambridge, Massachusetts : The Technology Press. Massachusetts Institute of Technology. 1934. Pp. xxv + 605. $4.00.)

WHEN a man has devoted a life of action and research to a subject which is intrinsically none too attractive but of the greatest importance to human welfare, undeterred by the lack of existing knowledge and the deplorable state of statistics, it would be ungenerous not to begin by stating that this book is an excellent description of the building industry, its significance, working and inefficiencies. In view of the enormous difficulties a few errors in details have inevitably crept in; it would be improper to dwell on them. But some few criticisms of the main current of thought are unavoidable. There is perhaps a tendency to overstate the case against the backwardness of the building industry, its lack of organisation, and the narrow-mindedness of its entrepreneurs. We might often change the verdict, "the industry is clearly standing in the way of its own progress" (p. 304), into "specific technical and demand conditions of the building industry are standing in the way of progress." That "each structure is a separate job" seems, to some extent at least, unavoidable. If so, an important means of securing the economies of large-scale production might be to increase the size of the natural unit, the structure. But the relation between structural size and building costs is neglected to an astonishing extent. So also is the time factor in building. Large economies could be realised by shortening the erection period on the building site of a big tenement flat to six weeks, of a cottage to three weeks. This is far from being utopian. The substitution of dry building materials for wet ones should be more important than the increase in the proportion of work done at the centre of specialised manufacture and the decrease in that done on the site upon which Mr. Bemis builds his hopes. Here the question of standardisation comes in. True, Mr. Bemis assures us that standardisation does not spell monotony. But at the same time he disapproves of "dream-world cottages"

and "needless diversity." Where is to be the golden mean between monotony and needless diversity? By what standards is the needlessness to be judged? By whom? Will the very expert hand always be available, which is required (as Mr. Bemis surely will admit) to avoid monotonous uniformity? Is it not something other than bad taste if men, whose daily work is monotonous and functionalistic, demand diverse and "dream-world" homes rather than functionalistic houses? Sometimes Mr. Bemis seems to have the vague idea that upon the "basic" demand for shelter, which should be satisfied by a standardised product because any diversity is needless, could be superimposed the demand for amenities, comfort, homeliness and so on, for the satisfaction of which individual features should be added to the standardised product. In the real world, however, the basic and individual demands are indiscernibly entangled. Not more than the basic house, but something different from the basic house is required. Mr. Bemis puts us under some constraint, for he promises to deal with the question of standardisation in detail in a later volume. It will not be easy to answer these questions satisfactorily.

A further impression is that Mr. Bemis the engineer is hypertrophically developed at the expense of Mr. Bemis the economist. The economist contributed the title of the book, a chapter on Government Intervention (the weakest of the book) and a section in which he argues that the high price of building labour, increasing the costs of house-room, diminishes expenditure upon house-room, and that the resulting reduction in the building labourers' wage-bill has further harmful repercussions on general employment. In this argument he overlooks the effects of increased expenditure on other goods by those who are induced to spend less on house-room and the consequent beneficial repercussions which should be expected, in part at least, to counterbalance the harmful repercussions. On the whole, the engineer keeps the field and deals with the question: Why is building so expensive? But after all the question to be answered by *Economics of Shelter* is: Why are people ill-housed? which involves questions of urbanisation, income size, income distribution, allocation of income to different purposes, housing habits, and exploitation. So we cannot go beyond the initial statement. An admirable treatise on the building industry—the economics of shelter, however, has still to be written.

H. W. Singer

The Application of Scientific Methods to Sociology. By JOHN CANDLER COBB. (Boston: Chapman and Grimes. 1934. Pp. 161. $2.00.)

THIS is a posthumous publication of the author's own edition of some articles written between 1926 and 1931. A laudatory foreword by Professor Wesley Mitchell invites the reader to treat with respect this work of a retired American business man. There are six articles, preceded by a summary which constitutes about a third of the book. In consequence there is much repetition, often verbatim. The author's main point is that all sciences pass from qualitative analysis of impressions to quantitative analysis of exact data, leading to proof. The Social Sciences are entering the second stage. Mr. Cobb believed that quantitative methods could be applied to social problems, provided the problems were exactly stated in terms which excluded all questions of the ultimate value of ends. He gives one or two examples of economic arguments which suffer from the lack of this precision and to which quantitative methods could be fruitfully applied. It is a pity he did not concentrate on this point and make more suggestions of fields for research. His ideas on specific problems would probably have been of greater interest than his views on general methodology, which are somewhat nebulous.

T. H. MARSHALL

London School of Economics.

Britain's Political Future. By LORD ALLEN OF HURTWOOD. (London: Longmans, Green. 1934. Pp. xiv + 192. 6*s*.)

LORD ALLEN is a New Dealer, and sets out to provide for this country a programme of political and economic reform which will cure our ills. His National Socialism is a blend of Fabian gradualism in economic change, with a thoroughgoing liberalism in political matters. He is as much concerned to defend the democratic method against dictatorship as to expound the programme of that Socialism to whose name he pertinaciously adheres, whilst leaving its content sufficiently vague. In the end neither his political nor his social remedies are very convincing. He cries out for Leadership, but gives little indication how leaders are to be raised up, and though (Chap. XIII) he insists on the need for greater speed in legislation, his proposals for devolution of powers to local authorities and to an economic chamber and for a greater use of committees in Parliament are neither very new nor worked out in any detail. Nor do his

economic proposals go much beyond the familiar programme of an extension of Marketing Boards and public utility corporations, and of governmental activities in housing and "the reconditioning of the countryside," combined with "a still more expansionist monetary policy to secure the reduction of hours so that the whole population may be employed and consuming power increased." Lord Allen is, in fact, a Left-Centrist, and would apparently welcome a political combination of such personalities as Messrs. Walter Elliot, Anthony Eden, Herbert Morrison, Noel Baker, etc. His book is a "Tract for the Times," but, unlike some Tracts so named, it is too closely related to a passing phase of events to have much chance of survival.

E. J. PASSANT

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Cambridge.

Marktform und Gleichgewicht. By H. VON STACKELBERG. (Wien und Berlin: Verlag von Julius Springer. 1934. Pp. vi + 138. *M.* 9·60.)

OF all the questions which have been raised by recent works in the field of imperfect competition, duopoly is perhaps that which has advanced least far towards a satisfactory solution. Consequently, although not so very long ago a book on duopoly would have been a very surprising thing to meet, its appearance to-day is thoroughly welcome. Of course, in order to make a book out of it, duopoly has to be understood in a wide sense. The classical problem of competition between two identical firms was never intended as anything but a preface to the subject—although for a long while economics got stuck at the preface. Dr. von Stackelberg does not confine himself to this simple case, but examines also a large number of situations in which more or less similar problems arise. One of these, bilateral monopoly, is familiar enough; oligopoly and "imperfect" duopoly (where the commodities produced are related but not identical) have been heard of before; but bilateral oligopoly, indirect bilateral monopoly, and duopsony (as Dr. von Stackelberg might have called it, but he missed this opportunity) are monsters that make their first appearance in his pages.

Of this wide group of problems, some are affiliated to bilateral monopoly, and thus simply show more or less indeterminateness; others are affiliated to duopoly, and repeat in a more complex manner the classical difficulties of the competition between identical firms. Into this "duopoloid" group Dr. von Stackel-

berg reckons perfect and imperfect duopoly, perfect and imperfect duopsony, and also *indirect* bilateral monopoly—the situation which arises when there are three successive stages of production, of which A and C are monopolised, but B is competitive. His study of the duopoloid problems is the central part of his book.

The methods of analysis used are widely assorted. In addition to a straightforward literary exposition, the matter is handled arithmetically, algebraically and geometrically. As often, the geometrical treatment is the most elegant. By a combination of the "reaction curve" of Cournot with the indifference curves of Pareto, all duopoloid situations are reduced to one or other of ten types, which are then interpreted in the light of the theory of simple duopoly.

But this makes everything depend upon the theory of simple duopoly; our acceptance of Dr. von Stackelberg's more general conclusions comes to depend upon our acceptance of his conclusions in the classical case. And these are not very easy to accept. In spite of the complexity of his generalisations of the classical case, his conclusions in the classical case itself seem to me too simple. He recognises three possible solutions: (1) the Cournot solution, in which each producer takes the other's output to be fixed; (2) the asymmetrical solution, in which one producer sees the absurdity of this conduct, and builds his anticipations of the other's reactions upon his experience of how the other does react, and meanwhile the other continues to behave Cournotically; (3) the case where both producers assume a Cournotic behaviour on the part of the other. Of these the Cournot solution tends to pass over into the asymmetrical solution, when one producer discovers that the other does not keep his output unchanged when he varies his own output; and, according to Dr. von Stackelberg, when the second producer wakes up, this usually gives way to the third solution.[1] But why? One could understand this third solution coming into existence if both producers woke up at once; but if the second producer wakes up after the first, it would seem more reasonable for him to assume that the first producer will act as he was acting in the asymmetrical case. (That is to say, the attack upon Mr. Harrod's solution,[2] made in an appendix to this book, seems to me largely unjustified.)

But, anyhow, why start with the Cournot solution at all?

[1] Christened by the author, oddly enough, with the name of Professor Bowley.
[2] "The Equilibrium of Duopoly," ECONOMIC JOURNAL, June 1934.

It seems not unreasonable to suppose that some business men may have discovered, what some economists have discovered in the end, that rivals will restrict their output most effectively if they believe that an expansion of output on their part will be followed by an expansion of output elsewhere. Once this is realised, steps can be taken to ensure that they have this belief. It was one of the great merits of Professor Chamberlin's analysis of duopoly that he did show how duopoly might lead to tacit combination; it is one of the most serious defects of Dr. von Stackelberg's treatment that he pays no attention to this possibility at all.

His rather exaggerated idea of the instability of duopoly leads to startling results in his concluding chapter. He points out, justifiably enough, that such causes of instability become more important as economic conduct becomes less "traditional"; and that the growth of combination does not diminish, but rather increases, their importance. Duopoloid situations are just as possible between integrated industries as between firms. Combining these considerations with his previous analysis, he sees no way out but thorough-going price control. And so we end with a pæan to the Corporate State!

J. R. Hicks

London School of Economics.

Dynamic Economics. By C. F. Roos. (Principia Press, Bloomington, Indiana.)

The essays of which this book is composed (for it is rather a collection of essays than a unitary work) are of two types: some are simply discussions of particular points of economic theory, others are endeavours to verify theory and make it more precise by statistical work. The latter essays seem to be the more important. For the purely theoretical papers, most of which are not specially "dynamic," rarely reach very novel conclusions; and the peculiarly fearsome mathematical apparatus employed to reach them does not enhance the attractiveness of Dr. Roos' particular path.

The best of these theoretical essays is that on "Joint Demand and Loss Leaders" (*i.e.* selling one good below cost in order to make a market for another). Dr. Roos' conclusions seem to fit in well enough with the established theory of discrimination.

The main statistical studies are demand studies: one on the demand for petrol (taken as a typical consumption good), and

one on the demand for residential building (a capital good). In the petrol case Dr. Roos has the advantage of being able to take statistics from a number of similar but separate populations (the States of the American Union); the building study is confined to St. Louis.

The method employed in these demand studies is interesting. Dr. Roos declines to content himself with the mere endeavour to construct statistical demand *curves*—for the method of treating demand as dependent upon a single variable has, he holds, been conclusively disposed of by its inability to cope with the facts of the great depression. Demand depends not only upon price, but also upon purchasing power, and upon the supplies of complementary and competitive goods. How far these can be taken into account depends upon available statistics, and it is often necessary to take quantities which may be expected to vary with the quantities desired, rather than the quantities themselves. Thus, for example, " new automobile registrations " are taken as proportional to " automotive consumer purchasing power " !

Once a list of possibly relevant variables has been obtained, they are combined into a formula, largely by guesswork, but guesswork which is informed by plenty of common sense and a real grasp of economic theory. The method is certainly drastic, but the results seem fairly good; they do at least seem to offer a promising line of development towards something more satisfactory than the statistical demand curve.

The factors affecting demand for building naturally fall into quite different theoretical categories from those affecting the demand for petrol. Dr. Roos classifies them: (1) Growth in the number of families, (2) profitability, measured by net rental income as a percentage of replacement cost, (3) supply of funds for investment in building. The quantity which he introduces as likely to have a close relation with this third factor is the rate of foreclosure, though a lag has to be allowed for.

The results of this chapter are perhaps the most interesting of the book. Dr. Roos comes to the conclusion that the foreclosure factor is much the most important, so much so that the altogether abnormal foreclosures of 1931–2 would almost have led a less careful statistician to predict a negative rate of building for 1934.

J. R. Hicks

London School of Economics.

Theorie der Produktion. By ERICH SCHNEIDER. (Vienna: Julius Springer. 1934. Pp. 92. 6.60 *Rm.*)

THIS account of the basic concepts and methods in the theory of production merits the serious attention of every theoretical economist. The book is well planned and well written. With a text occupying no more than eighty pages of average size, it is almost a perfect example of clarity combined with conciseness. It is not to be assumed, moreover, that its scope is limited to a discussion of production under conditions of perfect competition. On the contrary, within its two covers is contained almost all the essential theoretical groundwork needed in those fields of duopoly, polypoly, imperfect or monopolistic competition and price policy that have been investigated, with increasing persistence and success, during the past decade. Dr. Schneider is, therefore, to be congratulated upon the publication of a book which can be said, with perfect truth, to fill an obvious gap on the economist's shelves.

Dr. Schneider divides his theory of production into three well-marked sections leading logically one into another. There is first a short section on the *technical problem*, the technical basis of the production process in a firm or production unit. The technical dependence of output on the variable factors of production is described by means of the production function and its characteristics. Next comes a longer section on the internal or *cost problem* of a firm, the problem of the organisation of the factors within the firm in order to minimise the total cost of producing a given output. A comparison of the organisations appropriate to outputs of various sizes then leads to the definition of the firm's cost function and curve. The concluding section is concerned with certain aspects of the external or *market problem* of a firm. Here the firm is assumed to determine that output which maximises profits under whatever market conditions it has to face. The cost function of the firm, dependent on the nature of the market for the factors of production, is thus related to the market demand for the firm's product.

This is clearly a natural, and at the same time a very illuminating, division of the theory of production. The extent to which the theory is developed along these lines is seen when it is remarked that the third section is limited to the case where both the demand for the firm's product and the supplies of its factors of production are "atomistic" in nature. In other words, there is "pure competition" amongst buyers of the product and amongst

suppliers of the factors so that a definite product demand function and definite factor supply functions can be assumed for the firm. Further, there is no reference to production as it concerns a whole industry, to the relation between the various production units that make up an industry. Such limitations are necessary in a basic theory of production, since their removal leads us into the extensive domain of market forms, of market strategy and price policy. A second volume is promised by Dr. Schneider in which he proposes to apply his methods in part of this domain; other parts have been treated already in recent publications by Dr. v. Stackelberg. Finally, of course, Dr. Schneider's theory is completely static, a fact which scarcely calls for apology in a book of this nature.

Selecting the best and most interesting of Dr. Schneider's constructions, we notice first the analysis (pp. 9–21) of the production function by means of *proportional* variation in the factor combination. The corner-stone of this analysis is provided by the " elasticity of productivity " (*Ergiebigkeitsgrad*). This concept, denoted by ϵ, indicates the technical changes in output consequent upon any small change in the factors which leaves their relative amounts unaltered. It serves to distinguish increasing ($\epsilon > 1$), constant ($\epsilon = 1$) and decreasing ($\epsilon < 1$) physical returns. Further, it is the link between the total product and the sum of the returns (in physical terms) to the factors—the generalised Euler Theorem or, to use Dr. Schneider's designation, the Wicksell–Johnson Theorem. The analysis has its most fruitful application in the short-period (partial adaptation) cost problem of the firm (pp. 41–50). Some of the factors are here taken as fixed and the production function is, therefore, not linear and homogeneous. The ϵ concept is then sufficient for the description of typical forms of the total, average and marginal cost curves of the firm.

Again, in his final section, Dr. Schneider does well to stress the importance of the strategic position of the firm on its markets. The firm can be a " quantity-adjuster " or a " price-quantity-adjuster " on either the factor side or the product side. In the former case (on the product side, for example) the demand is infinitely elastic and the firm must take the ruling price, fixing only the amount of its output. In the latter case the demand is less than infinitely elastic and either the price or the output is at the choice of the firm. A firm under conditions of imperfect competition is, of course, a price-quantity-adjuster on the product side.

In these constructions, criticism would be ungracious if not impossible. Dr. Schneider is, perhaps, a little less happy in some other developments of his theory. In the long-period (total adaptation) analysis of the cost problem, for example, the production function is necessarily taken as linear and homogeneous, in which case $\epsilon = 1$ always. But the difficulty arises here as to what meaning, if any, can be attached to the concept of a firm or production unit, a difficulty upon which Dr. Schneider (with some excuse) does not dwell. Again, the treatment of the remuneration of factors when their employer has monopolistic power (*i.e.* in the case where a firm acts as a price-quantity-adjuster on the factor side, factor prices being variable) might have been amplified and further developed with some advantage.

It is when we come to the question of discontinuity in production, however, that it is apparent that Dr. Schneider has not said the last word. The problem of discontinuity is admittedly of considerable analytical difficulty. In order to approach the problem, Dr. Schneider distinguishes, at the very outset, between factors which are " limitational " and factors which are " substitutional." A factor is limitational if one definite amount of the factor must be used to obtain any given output. Substitutional factors, on the other hand, are such that a given output can be obtained by means of various alternative groupings of the factors. The production function then contains only the substitutional factors, the limitational factors being automatically adjusted to correspond to whatever output is produced.

Now, Dr. Schneider asserts that discontinuity in production is, in general, limited to discontinuous limitational factors. In this way he is able to proceed with a continuous production function, with continuous substitutional factors, even in his discontinuity problem. The only difference lies in the fact that the limitational factors, varying by " quanta," impose definite " capacities " on the output, *i.e.* there are only certain outputs at which the firm works to capacity. It would appear, however, that this device, introduced out of a natural desire to retain a continuous production function, is too severe in its operation. It is surely reasonable to suppose that discontinuous factors can be substituted in production either amongst themselves or for the more continuous factors. No completely satisfying treatment of discontinuity of production can be expected unless the discontinuity is introduced into the production function itself, either in the form of discontinuous but substitutional factors or in the form of a production function of discontinuous nature. But

Dr. Schneider has, at least, provided an approach to the problem of discontinuity which can serve as the basis for discussion and further development.

R. G. D. Allen

London School of Economics.

Les Théories de l'équilibre économique (L. Walras et V. Pareto). By Gaetan Pirou. (Paris: Les Éditions Domat-Montchresttien. 1934. Pp. 407. 60 *fr.*)

This is a work not easily reviewed. It consists of a reproduction of the typescript of actual lectures given at the *École Pratique des Hautes Études* between 1932 and 1934. This course of lectures, however, forms the second of a complete set of three courses dealing with the evolution and history of economic theories since 1870. The first course on the Austrian theories has already appeared, under the title *L'Utilité Marginale,* in the same form as the present work, and the concluding course on more recent developments, particularly in the field of economic "dynamics," is promised for later publication. In his preface the author claims that an exposition, written for actual delivery in the lecture-room, must necessarily be very full and even repetitive and that all use of mathematical symbols must be strictly avoided. This may be the case, but the author cannot hope to evade criticism of a published work on such grounds. It is surely reasonable to expect a certain condensing and rearrangement of lecture notes designed for publication, and, in the present case, the text might easily have been cut down to half its length. In fact, the whole of the triple lecture course might, with judicious cutting, have been published in one convenient volume of little more than the size of the present work.

The two theorists of economic equilibrium treated in these lectures are, of course, Léon Walras and Vilfredo Pareto. Apart from the over-lengthy and, at times, slightly antiquated discussion, the treatment of Walras is quite good. Walras was influenced, in the development of his theories, largely by two very different writers. It was from his father, Auguste Walras, that Léon Walras took the idea of physical scarcity as one of the bases of the theory of value and price. And the correlation of scarcity with "marginal utility" is one of Walras' most obvious achievements. The other influence was, of course, that of Cournot, from whom Walras, like Marshall, derived the idea of the use of mathematical analysis in economic theory and the

essential notions of price determination under conditions of monopoly and competition. These influences are well brought out by Professor Pirou, and we are particularly glad to have his account of the little-known work of Walras *père* in relation to the later developments of Walras *fils*. It is curious to note, in passing, that Professor Pirou's full bibliographies apparently contain no reference to the excellent Irving Fisher edition of Cournot's *Mathematical Principles*.

Full justice is, therefore, done to the work of Walras. But, on turning to the subject of the later chapters, it must be admitted that far less than justice is done to the subsequent work of Pareto. Professor Pirou claims that his object is to give a non-mathematical exposition of the essentially mathematical development of Pareto's theories. It is soon evident, however, that this is just what he does not do. The exposition is merely a re-hash of some of the parts of Pareto's own non-mathematical chapters. Any-one at all acquainted with Pareto knows full well that the best of his work is to be sought, not in the non-mathematical exposition, but in the mathematical development itself. If the mathematical appendix to the *Manuel* and the *Économie Mathématique* article are ignored, as they are by Professor Pirou, no estimate of Pareto's main contributions to economic thought is possible. Less than half the space considered necessary for Walras *père* is actually devoted to the whole of the development of the *Manuel*, from the introduction of indifference curves to the theory of exchange and production equilibrium. And this brevity is due to omission rather than to concision. We seek in vain any reference, for example, to Pareto's attempts, incomplete as they may have been, at the description of the complementary and competitive relations of goods in consumption as they appear in the form of the indifference curves.

We do not have to look far to see the reason for this dismissal of Pareto's work. Professor Pirou is at great pains to point out the futility of Pareto's rejection of the subjective elements in the basis of the theory of value. But, even if this part of Pareto's work is of little importance—and this is a difficult thesis to maintain—this can be no justification for complete neglect of the later developments of the Paretan theory. These developments, in one form or another, are just as essential to a theory of value on a hedonistic basis as they are to an "objective" theory. Edgeworth provides sufficient proof of this fact. To many people, therefore, this work of Professor Pirou is ruined by the lack of balance in the respective accounts of Walras and Pareto,

just as many of the books by the less cautious disciples of Pareto are ruined by a lack of balance in the opposite direction.

R. G. D. ALLEN

Higher Control. By T. G. ROSE. (London : Pitman and Sons. 1934. Pp. xiii + 269. 12*s.* 6*d.*)

THIS book does not deal with the question who shall control an industrial undertaking, or through whom he shall control it, but confines itself to the paper work that a higher control requires. Mr. Rose, in his own words, " builds up an interlocked system of returns, by means of which an industrial undertaking can be efficiently controlled." A great number of forms and illustrative tables are given, so that a manager should have no difficulty in following up the system advocated ; and the system itself should greatly improve upon the present costing procedure of business on the score of logical analysis and grouping of items. The costs usually entered higgledy-piggledy on the left-hand side of the trading and profit and loss account are, for instance, classified into (I) Prime cost ; (II) Factory Oncost : (A) Indirect Material, (B) Indirect Labour, (C) General Charges, (D) Standing Charges ; (III) Company Overheads : (A) Selling Expense, (B) General Charges, (C) Standing Charges.

This is all to the good. But an economist would like to see more stress laid on the distinction between costs varying directly with output, and fixed costs. Depreciation, for instance, is not divided into the results of work, *i.e.* wear and tear, and the results of mere exposure or obsolescence not affected by variations in output, but is all lumped (p. 43) under Standing (Factory) Charges, and (p. 106) considered non-variable. Until this distinction between costs variable and non-variable with output applies throughout industrial accounting, the marginal cost of additional output is not calculable, the economist cannot be supplied with statistical data to control his price *theories*, and the business man cannot get rational data to control his price *policies*.

Mr. Rose, however, does not claim to start a new method of accountancy, but wishes to bring the usual accountant's results to bear upon the problems of management. In three successive chapters on the business, trading and financial positions, he succeeds in showing what significance to the management lies in the order book, the trading and profit and loss account, and the balance sheet. But, as he states in his first chapter, the accounts and balance sheets, when taken alone at their face

value, are much more like "formalised arithmetical calculations than a developed picture of what is going on from the management point of view." This book is accordingly designed to help the more or less lay company directors to see the management view through the mass of technical accountancy statements. Other laymen such as economists will also be helped in understanding the nature of these statements and how they all fit together or, at least, can be made to fit together.

The textual explanation or definition of each of the items occurring in the illustrative technical accountancy statements is most systematic, and should prove valuable in securing a common language for rational conversation between economists and accountants. At present, how many economists would guess that what the accountant means by working capital is (p. 156) the difference between current assets and current liabilities, and that what they have been calling working capital the accountant would apparently (p. 149) call non-liquid current assets?

To sum up. Mr. Rose does not deal with business organisation, but his object is primarily to make business of any size more manageable. He rightly insists on such logical arrangement of accounts that the general manager is presented with general summaries, the departmental manager with departmental summaries, and neither of them with unordered detail. The widespread adoption of his system of control may well make the co-ordination within large-scale organisation more easy, and thus increase the actual size of the unit of control nearer to the optimum.

P. SARGANT FLORENCE

University of Birmingham.

Fundamentals of Industrial Administration. By E. T. ELBOURNE, M.B.B., A.M.I.Mech.E., assisted by K. B. ELBOURNE, B.Com., and P. J. AMER. (London: Macdonald and Evans. 1934. Pp. vii + 644. 12*s.* 6*d.*)

MR. ELBOURNE is one of those rare persons who combines a wide practical experience of business organisation with an understanding and interest in the theoretical aspects of the task in which he is engaged. By profession a Management Consultant, he is concerned with the problems of the basis on which decisions are and should be made, and is in a position, therefore, to throw light on those questions of the extent to which difficulties of business management limit the most efficient scale of organisation, which have so much puzzled economists recently.

Unfortunately for those whose interest goes more deeply into

individual problems, Mr. Elbourne has designed his book primarily for the needs of students of Industrial Administration for the examinations of the Institute of Mechanical Engineers. With this end in view he has made it more encyclopædic than might otherwise have been desirable. The result has been to overlay at many points the fundamentals with necessary but relatively far less important details. We turn aside from the organisation of office work to consider the dimension of desks and the silence of filing cabinets. A very great deal of space is given to ephemeral information regarding the volume of trade between this and other countries, to a necessarily superficial history of British industrial development, and to a discussion of the theories of money and of international trade. The general reader would gladly exchange these for a detailed account of the more immediate problems of administration, and even the student might, perhaps, be left to study these complicated questions at greater length in other books.

When it comes to the practical problems of administration, one point which will, I think, immediately impress the theoretical economist is the relative weight which Mr. Elbourne appears to assign to the different problems of administration. For the economist the price-output decision always takes the first place. Mr. Elbourne dismisses it in a sentence. "Granted that selling prices tend to be fixed by competition, and that there is in effect a market value for all goods from which the individual manager can hardly escape, he must relate his costs to that value as best he can." He regards costs, that is, as the variable element, to be adapted to price, not as the fixed element, to which price and output must be adjusted.

A second question that looms large in the theoretical studies of entrepreneurs' decisions is that of the conditions in which capital equipment is likely to be substituted for direct labour, or vice versa. As regards this question Mr. Elbourne has something more to say (pp. 495–502), but he is scarcely concerned with the effects of changes in the rate of interest, or with the degree of uncertainty of future levels of output, and is more concerned with the conditions in which different types of equipment will be preferred to each other than with those in which capital equipment in general will be preferred to labour.

To say this implies no necessary criticism of the book. Indeed Mr. Elbourne's treatment fairly represents here the actual problems as they confront the manager of a business. The hypothetical business, in which a single "commodity" is mass-produced in a single plant, whose machinery is worn out within

the life of the demand for the "commodity," is as rare as snakes in Iceland. The problems of most businesses are those of the common costs of numerous "commodities" produced together, with rival demands for the use of equipment, whose life is long as compared with that of any one of the "commodities." The fascinating problems which emerge from a study of these conditions, particularly as applied to the "short period," have hardly yet been scratched by theoretical economists. Until they have examined them more closely they will have little of interest to offer to the practical accountant. Generalisations concerning overhead costs in the short period, which are valid in the hypothetical case of the single, long-lived commodity, may be definitely misleading when applied to a complex firm, where equipment granted to one use must be denied to another.

To the more general questions of the principles of management, Mr. Elbourne has comparatively little original contribution to make. Indeed in this section of the book his habit of inserting long quotations from the recognised authorities degenerates at times almost into the composition of a scrap-book. Mr. Elbourne's own views would be so interesting here that his reliance on others is the more to be regretted. We shall only be able to evolve principles of organisation applicable to different types of industry if those with intimate knowledge will make available their experiences and their difficulties, their successes and their failures. It is much to be hoped that Mr. Elbourne will some day find time to give us more fully his own opinions on these questions.

AUSTIN ROBINSON

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Cambridge.

The Economics of Advertising. By F. W. TAYLOR. (London: Allen and Unwin. 1934. Pp. 248. *7s. 6d.*)

CONSIDERING the pivotal position which advertising occupies in almost every field of modern economic life, it is a topic which appears to have been strangely neglected by economists. In America, it is true, the technique of advertising has been the subject of endless text-books, but even in that country its economic significance has received relatively scant attention. On this side of the Atlantic, at least until the publication of Mrs. Braithwaite's brilliant, if rather tentative, analysis in the ECONOMIC JOURNAL for March 1928,[1] one could have searched economic literature

[1] Reprinted with some amendments and omissions as Chapter VII of *The Distribution of Consumable Goods* by Mrs. Braithwaite and the present reviewer.

almost in vain for any recognition of the part played by advertising in the determination of values, or, for that matter, of its very existence as an important element in industry and commerce. Even Professor Marshall, whom very little escaped, does no more than accord it three pages in *Industry and Trade*, and then only to indicate in a general way the extent to which advertising involves social waste; he makes no attempt to discuss its influence on prices, whether from the side of supply or demand, its influence in creating monopoly or its relation to the problem of prime and supplementary costs. In his *Economics of Welfare* Professor Pigou gives the subject even shorter shift, contenting himself with a mere paragraph or so in the chapter in which he discusses the divergences between social and trade net product.

In these circumstances it is with some excitement that one opens a book entitled *The Economics of Advertising*—an excitement which in the present case the contents fail to justify. There is here no real attempt to answer the cardinal question for the economist, "How does the practice of advertising influence values?"—or even the secondary question, "How does it affect economic welfare?" To begin with, Mr. Taylor's method of approach is not conducive to clear thinking. After a brief and very inadequate chapter on the development of advertising and its significance, he devotes the main portion of the book to a discussion of the "functions" of advertising under the two heads "Claims made for advertising" and "Criticisms of advertising," exactly in the manner of the *pros* and *cons* of the schoolboy's essay on "Boarding Schools versus Day Schools" or "Classics versus Mathematics as a Liberal Education." In the course of the discussion a number of good points are made, though more often than not they are quoted from previous writers (including Mrs. Braithwaite and a number of the Americans), but a good deal of space is also wasted on the refutation of some of the cruder claims of the go-getting publicity experts.

The latter part of the book consists of some disconnected chapters under the general heading of "Advertising and the Community," dealing in turn with the social significance of Advertising, with its relation to the Press, with Modern Marketing Methods, with the Organisation of the Advertising Business and with the "Future of Advertising." Whilst these chapters are all sound so far as they go, they are for the most part concerned with topics which have been more adequately treated elsewhere, and contain little that is really original.

Finally, there is a useful statistical survey of the amount and

distribution of Advertising Expenditure—in the course of which some of the more extravagant estimates which have been made of the sums spent on publicity are shown to have been wrong.[1]

It must not be concluded from the disparaging tone of these comments that the book is not worth reading. On the contrary, it provides the student with a very useful first approach to the study of advertising as a social and economic force. Indeed one might truthfully go further, and say that in view of the shortage of books on advertising which are not mere ballyhoo, the present volume is likely to interest many who are seriously engaged in the analysis of economic forces as well as many more whose concern is with business operations of a more practical character. But it has been given the wrong title. The Economics of Advertising is a field which has yet to be explored. It may, of course, be that the time for this is not yet ripe. So little is known of the psychological factors on which the advertiser bases his appeal that it will, perhaps, be long before the economist can approach the subject with any reasonable assurance that he will arrive at valid conclusions. In the meantime, both economists and business men may be grateful to Mr. Taylor for providing them with this useful little A.B.C.

S. P. DOBBS

Road and Rail in Forty Countries. By DR. PAUL WOHL and PROF. A. ALBITRECCIA. (Oxford University Press. 1935. Pp. xx + 455. 18*s*.)

THIS survey was prepared under the auspices of the International Chamber of Commerce, with the object of making "a comparative survey of the actual conditions under which road and rail transport are respectively operating at the present time in the majority of countries, thus supplying the necessary background of facts for the question of the co-ordination of these two means of transport" (p. v). Part I, which constitutes more than half the book, surveys the principal features of the road and rail situation in each of approximately forty countries. Part II consists of separate studies of four selected aspects of the problem, and is based principally on material contained in Part I. The first of these studies relates to the nature and conditions of the

[1] Mr. Taylor's actual estimate of the sum spent in 1930 in this country on all forms of advertising is £70,000,000 with a possible error in an upward direction up to, but not beyond, £100,000,000. This estimate, which is evidently based on the most reliable information available, compares with one of £100,000,000 as a minimum, published in the *Economist* in 1929.

concessions granted to transport undertakings possessing a right to operate; the second to the taxation of the two modes of transport in question; the third to the measures taken by railways to meet competition from road transport, and the fourth to legislation at present affecting the working conditions of those employed in the two industries. Both Parts are for the most part informative rather than analytical.

Now, facts by themselves do not necessarily assist either towards the solution or even the understanding of a problem such as the co-ordination of transport. And having regard to the fact that the word co-ordination, like rationalisation, has almost as many meanings as there are writers on the subject, it is to be regretted that the study was not preceded by some clear definition as to what precise relationship the authors have in mind, were road and rail facilities "co-ordinated" to their (the authors') satisfaction. There being no such definition, there is accordingly no statement as to what is the nature of the outstanding problems to be solved. In consequence, the book suffers from a somewhat indiscriminate inclusion both of what is and what is not germane to those problems.

It is a feature of most contemporary transport problems that they require for their solution the assistance of technical experts who often come to play an important part in the moulding of "policy." These experts, being producers themselves, tend quite naturally to attach an undue weight to the point of view of the producer as opposed to that of the user of transport. It is for this reason that the concern shown by a body such as the International Chamber of Commerce in the road–rail question is to be warmly welcomed. And it is to be hoped that the Chamber's appointees will not rest from their labours till something more definite and complete has been written on its behalf.

GILBERT J. PONSONBY

London School of Economics.

Introduction to World Economics. By KEMPER SIMPSON. (London: Allen and Unwin. 1934. Pp. vi + 295. 10*s*. 6*d*.)

THE last five years have witnessed a movement towards self-sufficiency in nearly every country. The growth of agrarian protection, especially in France, Germany and Italy, has induced countries which export agricultural products to turn more towards manufacturing. There has been a general growth of barriers to international trade in order either to protect established interests from imports at considerably lower prices than those formerly ruling or to maintain a formal adherence to the

gold standard. Exchange uncertainty and political insecurity have led to wide divergences between interest rates in different countries. International migration has been restricted even more than before the depression.

The thesis of this book is that economic recovery is impossible for any one country alone and that therefore a general lowering of trade barriers would be to the advantage of all. The author outlines the economic structure of the United States, Great Britain, Germany and France in order to illustrate his contentions.

The argument is too simplified. It could be urged that the protection given to the great British market has been partly responsible for the swing in the terms of trade in favour of Great Britain. The author does not discuss this, nor how long it is likely to last. Again, it could be argued that under certain conditions increased protection during a depression may act as a brake upon unemployment. It could be answered that the maintenance of employment is not the sole economic aim. But this whole question is not discussed.

The present reviewer was disappointed not to find a discussion of the deflationary effect which the depreciation of sterling (and of currencies which have declined with sterling) has had upon the gold *bloc*, and a recommendation that sterling should be stabilised *de facto* in terms of gold (as the dollar has been stabilised for over a year) as an important first step towards the recovery of international trade and investment and towards the gradual reduction of trade barriers, including the substitution of tariffs for quotas.

The book is vigorously written. The outline of economic structures is a useful general survey, although it is drawn largely from secondary sources. The repetition of 1927 as the date when Great Britain returned to the gold standard becomes irritating.

F. BENHAM

London School of Economics.

Nuove Esperienze Economiche. By E. VON BECKERATH and others. (Firenze: Sansoni. 1935. Pp. vi + 241. 15*l.*)

THESE essays by six authors, Beckerath on Germany, Cole on England, Condliffe on Australia, Dobbert on Russia, Lorwin on America, and Nagao on Japan, rounded off with a comment by Spirito, leader of the left-wing economic theory of Italian Fascism, were originally intended to summarise the developments in various countries of parallels to the Italian Corporativist movement, *i.e.* efforts at collaboration between Government and factors of pro-

duction to substitute for competition an economy of national co-operation. But as such developments have not gone far in England, Japan and Australia, while Italy is not included, the purpose of the volume is somewhat obscured. Cole, however, contributes an expert summary of British trade unionism, State enterprise, and various anti-competitive developments since the War; Condliffe of Australian wage-regulation and official attempts to maintain the national standard of life since 1929 by means of tariffs, foreign borrowing, and a combined policy of inflation and deflation. Nagao gives an uncritical outline of the promotion in Japan of co-operative schemes among small men by the Government, and its control of the steel and petrol industry, and support of rice and silk. He shows why Japan has been able to undercut competitors in foreign markets, but fails to expose the social effects of the inflation and the extent to which Japanese prosperity, depending on low wages and the demand for war material, has weakened the national finances. Beckerath's essay on the economics of National Socialism is equally uncritical, being little more than an exposition of laws and the official policy. He does not reveal that it has come to nothing except in agriculture, nor that Dr. Schacht's methods have practically smothered German trade with bureaucratic regulation. The economic effects of the extensive price control are ignored. Dobbert expounds the figures of Soviet plans and shows the results have not reached the estimates. He offers a few disgruntled stock criticisms, but shows no grasp of the part played by propaganda in planning, and says little about the actual planning process. It is a pleasure to turn to Lorwin's masterly survey of the N.R.A. and its significance. He reveals how little labour has benefited, and the decision on February 27 of the Delaware Federal Court bears him out. Spirito's comments are interesting and sound, except when he confuses Socialism with proletarian dictatorship. An important book for students of present and future trends.

K. White

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Oxford.

Problems of the Pacific, 1933 : Proceedings of the Institute of Pacific Relations, 14–26 August, 1933. Bruno Lasker and W. L. Holland (Editors). (London : Humphrey Milford. 1934. Pp. xvi + 490. £1 1s.)

The Institute of Pacific Relations, of whose fifth conference this volume is a report, is a confederation of national institutes of

international relations in the countries situated, or having interests, in the Pacific area. Every second year the Institute holds a conference attended by members who are nominated by their national groups, but participate in their individual capacities. The discussions at these biennial conferences are, however, not isolated talks; but are part of the threefold process—national and international—of research, discussion and information, which the different national groups carry on continuously. An important programme of research, adequately financed by an American foundation, has enabled the Institute to produce a useful series of studies, mainly economic in character, describing and comparing economic, social and political developments in the Pacific countries. The strength of the Institute has largely been derived from this endeavour to provide a sound scientific basis of information for the exchange of ideas and the formulation of opinion upon international problems in a particular area. Much of the research work is of general interest to economists as providing accurate information upon obscure problems and remote areas. Notable examples are Professor Remer's book on Foreign Investments in China, Professor Nasu's study of Land Utilisation in Japan, Professor Penrose's calculations of an index of production for that country, and the forthcoming surveys of agricultural China being made under the direction of Professor J. Lossing Buck at Nanking.

The volume here reviewed gives the reader three sorts of information. The preface and the appendices give an account of the Institute's own development in the last two years, including a statement of the research programme. According to the preface, the conference at Banff was in many ways more successful than its predecessors. The main theme of the discussions was concerned with "Economic Conflict and Control" in the Pacific area, and there is evidence of a greater degree of "planning" in the preparation and guidance of the discussions, as well as in the subject-matter.

The second sort of information provided by the report is a summary of the actual discussions which took place. In preparing such a summary the editors have a difficult task to write something which shall round out the rather bare records of discussion by utilising the unspoken, but known, background of information without embarking upon essays which really go far beyond the actual discussions. The more faithful the record of actual discussion, the less profound and comprehensive must be the analysis. In the present case the editors have endeavoured,

with considerable success, to reflect the opinions exchanged at the round tables; but the interest of such opinions is reduced by the lapse of time before publication. The subject-matter is grouped in ten chapters, the first of which is a general statement of the theme of economic conflict and control. This is followed by four chapters dealing respectively with shipping, currency, standards of living and labour standards, as offering illustrations of the theme. A series of national variations is then introduced by chapters dealing with Japanese expansion, the United States Recovery Programme, and the Ottawa Conference. In reporting the discussions on these matters the editors have not hesitated to point out the confusion of definitions and ideas that occurred in some round tables, nor to indicate the train of thought of the "more discerning members." It is inevitable that such reporting of discussions, however skilfully put together, must give rather a cross-section of current opinion than a profound analysis of difficult problems. The conflict of opinion which will probably be of most interest to readers of this journal is that reported between Dr. H. G. Moulton and Professor T. E. Gregory concerning the nature and probable consequences of the N.R.A.

Of more enduring interest to economists is the third sort of information contained in the selection of research studies printed in the second part of the volume. These represent only a small part of the Institute's research output, the larger and more important studies being printed as separate volumes. The shorter papers included in this report vary a good deal in interest and value. They are descriptive rather than analytical; but two of them, dealing respectively with the agrarian problem and with rural industries in China, are of special value to any student of the present situation in the Far East.

J. B. CONDLIFFE

Economic Aspects of Australian Land Taxation. By J. M. GARLAND. (Melbourne: Melbourne University Press; London: Oxford University Press. 1934. Pp. x + 217. 10*s*. 6*d*.)

THIS book is based on Mr. Garland's thesis for the Master of Commerce degree at Melbourne, and was there awarded the Harbison-Higinbotham Prize. It is an account of the experiments made by the Commonwealth of Australia and the States in the taxation of "unimproved" land values, and a survey of the theoretical questions involved.

Australians have always been ready to try any new idea

of State action in the economic field except complete Socialism; but the value of their experiments to economists is much reduced by their reluctance to pursue a consistent policy to which these should be related. In this instance, the imposition of land taxation was partly due to the influence of Henry George and partly to a desire to despoil the large landowners, who got their estates very easily in the pioneer days. The latter object has been attained but the millennium is little nearer.

From the theoretical side, the most interesting aspects of the subject are the disruptive effects of progressive taxes on large estates; and the question of whether the tax is really a capital levy on the man in possession at the time of its imposition, as is suggested by the conventional analysis. Mr. Garland deals with both these points (among others) at some length, and has collected what figures he could find, though he admits their inadequacy. A progressive tax may be avoided by the division of large holdings, and he thinks that on the whole this has happened to some extent in country districts. On the other hand, the demand for large holdings is affected by the desire to be a large landowner as such; and by the possibility that large holdings may be cheaper producers than small ones. It does not appear that the substitution of small areas for large has reduced production appreciably, as those estates which can only be worked economically on a large scale have low unimproved values. It is probable, though Mr. Garland does not mention this, that most of these areas are leaseholds and not subject to tax. The most marked disintegration has occurred in Queensland, where both State and Commonwealth taxes are progressive.

The discussion of the incidence of these taxes is extremely stimulating, and contains many examples of the difficulty of assessing in practice the figure which corresponds to economic rent. It is evident that frequent revisions are necessary and that any working rules will always be to a large extent arbitrary. The assessment must depend on earning power, as Mr. Garland makes clear: the variation of this with cyclical and secular changes constitutes a formidable problem. Of at least equal difficulty is the problem, here treated rather inadequately, of potential uses. For example, if owners in general are reluctant to give up their land to the most profitable use, they can all be assessed at a higher figure than would be justified by results if they were forced to do so.

The author gives some consideration to problems of "welfare" and thinks that land taxes might be used to discourage

ostentatious expenditure on town houses. There is no account of the Queensland perpetual lease system, which might have been included as a cognate problem. The style suffers from the determination of the author to avoid academic dullness: too high a price can be paid for this. But the book should be read by all who are interested in the theory of rent or in the possibilities of land taxes.

R. L. HALL.

Trinity College,
Oxford.

The Sales Tax in the American States. By R. M. HAIG and C. SHOUP. (Humphrey Milford (Columbia University Press). 1934. Pp. xxv + 833. 22*s.* 6*d.*)

Tax Systems of the World. Prepared by the Tax Research Foundation under the direction of the New York State Tax Commission. (Commerce Clearing House, Inc. 1934. Pp. 282.)

BOTH of these volumes are addressed essentially to the statesman; and each might have carried on its title-page the historic dictum of Chief Justice Marshall of the United States Supreme Court—"The power to tax involves the power to destroy." [1]

In the last five years no less than thirteen American States have adopted some form of sales tax. The rate of levy ranges from one to three per centum. The objects of assessment are, variously, sales of merchandise at retail (with or without exceptions), value of output or sales of materials and products at successive stages of distribution, gross receipts from all transfers of property, and even gross income from personal services as well as enterprise. The comprehensive study of these fiscal measures, undertaken with financial help from the Rockefeller Foundation by Professors Haig and Shoup and numerous collaborators, leads to the following authoritative opinion (p. 108):—"The sales tax as an emergency form of revenue, and certainly as a permanent part of any State's tax system, marks an unnecessary and backward step in taxation." It is not disputed that the tax has brought in substantial revenue to State governments suffering drastic losses of income, especially from property taxes, and faced with increased financial responsibility, especially in connection with schools and social relief. But the partially indeterminate and, where determined, inequitable and socially undesirable incidence which theory attributes to the tax would appear to be

[1] McCulloch *v.* Maryland. 4 Wheat. 316 at p. 431.

borne out in practice. The extent to which the tax is shifted tends to increase with the rate of levy, with the size of the business unit, with class of custom, and in the field of optional purchases. Competition and " customer resistance " are admitted deterrents. One point of special interest emerges, not specifically noticed in the book. It would seem, in fact as in theoretical presumption, that however great the inelasticity of the *market* demand schedule for any commodity or group of commodities whenever the elasticity of the demand schedule of the *individual firm* approaches infinity, this circumstance is in the short period decisive in preventing any direct attempt to shift the tax. Thus the highly competitive nature of trade in necessities has tended in the period under observation to keep the incidence of the tax upon the seller. Whether contraction of supply will in time shift the tax in this case yet remains to be seen. It would follow in the light of these results that the regressiveness of the tax as amongst consumers has so far not proved very serious, but that the distribution of the burden of the tax as amongst dealers has been markedly adverse to the small trader except in so far as he has been specifically exempt in law or for the time being successful in evading payment. The tax as a State levy, moreover, is further arbitrarily discriminating by virtue of the constitutional bar to its application to sales in inter-state commerce and in view of the unequal ease with which different types of business may escape it (and incidentally reduce its yield) by moving across State boundaries into sales tax free jurisdictions. More objectionable in some forms than in others, in none has the sales tax much to recommend it. The American Congress was wise to reject it as an instrument of Federal finance in 1921–22 and again in 1931–32; in this country it has fortunately few advocates despite or, perhaps, because of plentiful Continental examples at hand.

How far the sales tax in particular and all forms of taxation in general were in use in different countries in January 1934 may be discovered by an appropriately directed glance into *The Tax Systems of the World*. Mr. Howard, the Editor, says (p. 3): " This book, or rather its future expanding editions, is aimed to be, first, an annual encyclopædia; second, a manual; third, a text-book; fourth, a source-book, and so, it is hoped, a whole library on taxation." The present edition comprises: a series of charts giving in classified form full particulars (including references to statutes) of the individual taxes making up the tax systems not only of the American Federal and State Governments, but also of other countries and their main subdivisions, with, however,

notable exceptions such as China, Japan, India and the Argentine; a series of analytical tables giving comparative fiscal and economic information for various countries, including the collation of like forms of taxation wherever occurring; and, finally, a series of records for central and local governments of total revenue and the yields of particular taxes in recent years. Treasury officials and experts in public finance the world over have been prevailed upon to supply first-hand information, and officially published data have been freely drawn upon. The charts and tables are models of compression.

It is possible that a little clear thinking on the subject of taxation might profit more than all the compilations of the facts of fiscal practice together; but, nature being so niggard of the former good, it may be hoped that the seeds of information which have been sown with so much labour in these and similar volumes will bear some fruit in enlightened tax legislation.

M. TAPPAN HOLLOND

The American Vegetable Shortening Industry: Its Origin and Development. By G. M. WEBER and C. L. ALSBERG. (Food Research Institute, Stanford University, California. $3·50.)

THIS book provides an authoritative account of the history of a peculiarly American industry, the production of manufactured solid fat products, other than pure lard, which are used for cookery. It traces the development of the industry from its origin as adulterated lard in the 1870's through the period of strong opposition from the meat-packers and attempts at legislative control, to its definite establishment as an industry distinct from the lard industry, based primarily on the cotton-seed oil produced as a by-product of the cotton crop.

To the economist not especially concerned with American industrial history the book will be of interest as providing an example, first, of induced inventions following an economic demand for them, and secondly, of the price and production relationships of two competing commodities, lard and vegetable compound, each produced from a by-product of an important agricultural commodity, lard from hogs, and vegetable compound primarily from cotton. As a result of a careful analysis of the available statistical data, these relationships and their dependence upon consumption habits are admirably brought out in the text. It is impossible in the space of a brief review to indicate the scope of the analysis, which is of a nature to render the book of importance to other than specialists. The general reader is also

assisted by the relegation to Appendices of the technological discussions and the detailed statistical data on which the study is based.

RUTH L. COHEN

Prairie Settlement: the Geographical Setting. By W. A. MACKINTOSH, Professor of Political and Economic Science, Queen's University. (Toronto: Macmillan. 1934. Pp. 242. 17*s*.)

THIS is the first of the nine volumes on Canadian Frontiers of Settlement which are being issued by the Canadian Pioneer Problems Committee, with the assistance of the Director of the American Geographical Society, the Social Science Research Council, the Universities of the Prairie Provinces and certain Departments of Government, Federal and Provincial. The Canadian Railways have helped also. When the whole series has been published, it will be possible to write for the first time a serious economic history of the Canadian West, and those who share with Mr. Arnold Toynbee the belief that North American history can be squeezed into formulæ created to suit the Balkans and Ancient Greece may see fit to revise their judgment.

Volume I presents the geography of prairie settlement and is richly illustrated with tables, figures and photographs. To the economist, perhaps the most interesting maps are those which illustrate the relation between access to railways and the progress of settlement. "Small wonder that the demand for railways, more railways, and lowered costs of transportation was loud and continuous from the beginning of settlement down to the present" (p. 46). Speaking very broadly, the Canadian West from Winnipeg to the Rockies which is south of the line from Winnipeg to Edmonton was the frontier of 1900 to 1914—a frontier in relation to the occupied areas of the American Plains. Since the war the frontier has been north of Edmonton in the Peace River Country. Special value, therefore, attaches to Chapter VIII, in which the Peace River Country is fully analysed. The book is on a sufficiently wide scale to bring out the subtle yet important differences between the three provinces, as well as the broad fundamental differences between the flat prairie which is treeless and in large part semi-arid, and the rolling park country to the north of it, in which normally the rainfall is adequate.

Chapter IX, Climatic Variability, is of particular importance to the agricultural economist. It shows the importance of rainfall to the volume of the wheat crop, and there is a fascinating table on page 180 which shows that under average dry-farming con-

ditions each inch of annual precipitation between 6 and 18 inches represents about 2·25 bushels of wheat per acre in a crop year. Thus in the relevant range returns are constant. Chapter VI, The Prairie Plains, concludes with a generalisation of great practical importance: "Not until mixed farming, which the Canadian banker has eulogised so insistently, has dominated the sub-humid and humid sections of the country will it make significant progress in the semi-arid districts" (p. 134). In other words, the dry lands which can barely exist on wheat are precisely not those which can switch to mixed farming, because for the latter water is even more essential. Such land is submarginal. It ought to go back to nature, but this involves great cost for afforestation (where this is possible) and the removal of the existing population. Meanwhile, wretched as the returns may be, wheat is comparatively the most profitable crop; and if next year there is a world shortage of wheat plus a good rainfall in the southern belt, then the submarginal lands may enjoy a year or two of great profit, and once again the cycle of the 1920's may be repeated.

No important Library should be without this series, which Mr. Mackintosh has so ably introduced.

C. R. FAY

Cambridge.

Co-operation in Changing Italy: A Survey. By KARL WALTER. (The Horace Plunkett Foundation.) London: P. S. King. 1934. Pp. 80. 2*s*. 6*d*.

THIS book, excellently illustrated and already translated into several European languages, is by a writer already well known in co-operative literature. It is descriptive rather than analytical, and its matter is so challenging that we look forward to a full objective analysis from the same pen. Inasmuch as Great Britain and some other countries of the Empire have embarked on an era of agricultural compulsions, it is all the more important that we should study the apparent survival of economic freedom in a country from which political freedom, as we understand it, has been banished.

We can best indicate the contents of the book by a summary of the conclusions presented on pp. 72–3. Consumers' societies in some rural areas serve the whole population: in the cities they are essentially the shops of the poor but cater for all classes. The co-operative supply of agricultural requirements is more widespread and bids fair to become the common source of those supplies for the whole community. Co-operative

dairying is well advanced. Marketing, with the exception of rice, beetroot and tobacco (and in part wheat), is uncontrolled. Fish marketing is on the way towards complete co-operative organisation. Labour societies undertake great engineering and reclamation contracts. Agricultural labour societies occupy reclaimed land. Co-operative building societies are popular and numerous, credit societies are active and prosperous. And there is a wide variety of mutual aid societies concerned with welfare and society.

There was a great co-operative movement in pre-Fascist Italy; there is a greater now. And by all the accepted tests of co-operation, saving only the freedom, if it so desires, to enter into politics, the co-operation (our author contends) is genuine.

C. R. FAY

Industrial Policy of India. By C. N. VAKIL and M. C. MUNSHI. (Longmans. 1934. $8\frac{1}{2}''$. Pp. 266. 9*s.*)

The Population Problem in India. By P. K. WATTAL. (Bennett, Coleman. 1934. $7\frac{1}{2}''$. Pp. 185. *Rs.* 3·8.)

Problems of Transport Co-ordination in India. By S. K. GUHA. (Oxford University Press. $7\frac{1}{4}''$. Pp. 75. *Rs.* 1.)

THE three volumes to be reviewed differ widely in subject matter, but all are concerned with the formulation of practical policies designed to solve some of India's urgent present-day economic (and social) problems.

Professor Vakil and Mr. Munshi consider that the present world tendency towards increased economic nationalism is likely to continue, and—without discussing the theoretical aspects of protectionism—present a revised scheme of tariff schedules and rates, which shall assist India to industrialise and to hold her own in international industrial competition. On the assumption that industrialisation is desirable and can best be promoted by tariffs, they condemn the existing system of "discriminating protection" as inadequate, and Imperial Preference as based on political rather than economic considerations. They proceed to argue that what is needed is more far-reaching protection, based on a full analysis of India's special economic position and problems. After a historical sketch of world tendencies as regards commercial policy, and of the tariff policy actually pursued in India, they state that the goal for India should be "maximum production with a national outlook." This they interpret to mean that rapid industrialisation and the encouragement of all possible industries, large and small, existing and potential, are desirable, and appear

to assume that, if assistance is granted now, the industries promoted and extended will eventually be able to face world competition without protection. In particular, they support the idea that India should herself manufacture all her own raw materials, whether the final products are to be marketed at home or abroad. They then proceed to discuss, with reference to measures adopted in other countries, the reorganisation of India's tariff rates and schedules.

Mr. Wattal's volume is nominally a new edition, but has in reality been completely revised and rewritten, and in effect forms a concise and useful summary of, and comment upon, the Census of 1931. The author emphasises the fundamental importance of the population problem in India, and looks to a spread of birth-control as the only solution. He has attempted no novel analysis of the statistics, such as those recently undertaken in certain countries, but perhaps—on account of the unreliability of many of the Indian figures—this is well-advised. On the other hand, it is a pity that he perpetuates the common error of directly comparing the results of earlier, with those of recent, Censuses, particularly as regards dependence upon different types of occupations. Such comparisons cannot be made without allowing for changes in methods of collection and classification, a fact which vitiates Mr. Wattal's conclusion that dependence upon agriculture has substantially increased.

Mr. Guha has contributed a useful little volume to a series of booklets on current economic problems which is being published in handy form, and at a low price, by the Oxford University Press. Competition between road and rail has only recently become of importance in India, and it is most desirable that the problem of transport co-ordination should be studied and tackled before it assumes formidable proportions. Mr. Guha makes sensible, practical suggestions for promoting co-ordination, rightly emphasising the need to consider primarily the adjustment of the different forms of transport services to public needs, instead of merely adjusting inter-carrier relationships.

VERA ANSTEY

Money: the Human Conflict. By ELGIN GROSECLOSE. (Norman: University of Oklahoma Press. 1934. Pp. ix + 304. $3.25.)

The Correct Economy for the Machine Age. By A. G. McGREGOR. (London: Pitman. 1935. Pp. xv + 256. 7*s*. 6*d*.)

IN the main the first of the above books is an essay, popular in style but informed, on the history of currency from the earliest

times to the present day. Mr. Groseclose devotes much space to coinage debasements and the depreciation of paper currencies against their metallic equivalents, and the upsets to which these practices led. He pays scant attention, however, to fluctuations in the commodity value of the precious metals themselves, which at certain periods were after all of far more importance as a cause of social disturbance than debasement or depreciation in the unit of account. The conclusions to which his survey leads him are curious. American gold should be revalued at $150 an ounce, nothing but gold certificates issued for the future, and all further bank deposits should be backed 100 per cent. in gold or gold certificates. So might outstanding bank credit be retired, and the growth of debt in time to come be checked. But the historical sections make excellent reading.

Mr. McGregor's analysis follows familiar under-consumptionist lines. He wishes to stabilise the commodity value of money. Unfortunately, when productivity is increasing, wages do not rise fast enough, and the consequent deficiency of purchasing power brings depression in its train. The way out is to raise money wages by decree at an appropriate pace. Mr. J. A. Hobson contributes an enthusiastic Foreword.

HAROLD BARGER

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London.

Simple Economics. By F. H. SPENCER, D.Sc., LL.B. (London: The University of London Press. 1934. Pp. 208. *2s. 3d.*)

THIS book is intended as a text-book for candidates for such elementary examinations as those of the Royal Society of Arts and the London Chamber of Commerce, as well as for secondary school pupils taking Economics for the School or Higher Certificate. It suffers from an exaggerated effort to make intrinsically difficult ideas appear easy. The word "marginal," for example, is freely used, but the reader is given no indication of its real meaning in the more serious analysis from which it has been temporarily transplanted. To tell a secondary school boy that long-term price tends to be equal to marginal supply price is to entangle him in a mesh of words which the wisest of us would find difficult to interpret with certainty.

Despite this free use of the word "marginal," Dr. Spencer nowhere explains clearly the conception of the balancing of increments on which the whole system of equilibrium economics is based, and for lack of this not very difficult apparatus is driven

to make apparent nonsense both of the theory of short-period price and of the theory of wages.

The more descriptive chapters are much more successful, and the appendix of seven pages on the banking system is a masterpiece of compression. But to cover the whole of the theory of value and distribution, of production and exchange, of prices, of international trade and of taxation in two hundred pages is an impossible task. While the book may serve its intended purpose, it is probably too superficial for even the weakest of undergraduate students.

The Rôle of Money: what it should be contrasted with what it has become. By FREDERICK SODDY, M.A., LL.D., F.R.S., Nobel Laureate in Chemistry. (Routledge. 1935. Pp. x + 222. 5*s*.)
Life and Money. By EIMAR O'DUFFY and CYRIL ROCK. 2nd ed. (Putnam. 1934. Pp. 292. 5*s*.)
The Control of Prices. By AUGUSTUS BAKER. (Dent. 1934. Pp. x + 175. 5*s*.)

PROF. SODDY's book is one of "The New World Series," edited by Hubert Williams, which is "based on the assumption that it is necessary to evolve a new way of living to master the strange and rapidly changing circumstances of to-day." It is to be hoped that the contributors on other topics in this series have not been chosen on the same principle that has led to the selection of an eminent physicist to write about Money—the belief that most books on the problem are "treated from the bankers' point of view." A student asking Prof. Soddy's opinion as to the future of chemistry would certainly not be referred to the views of clergymen or journalists; and there is no more sense in offering inquirers on economics the notions about money held by physicists and engineers, who without any research or training such as is considered indispensable in their own professions presume to solve complex economic questions in a "scientific" yet sweetly simple way.

The Professor is said to be writing "from the standpoint of the PUBLIC," and his ideas are certainly distinguished by misconceptions and empty though violently stated charges against the monetary authorities. He is almost exclusively concerned with the fraudulence and iniquity of bank-created money, for he regards what he calls "virtual wealth"—the unspent margin—as of primary importance, its issue being "a vital prerogative of

the State." He envisages the banks as "arbitrarily creating and destroying money by extending and destroying it in the form of loans which can only be sunk in preparations for future production," thereby making price-level stability "obviously impossible," but he declares that the *circulation* of money "*must* conform to the rate of creation of wealth"! Accordingly, he believes that a price-level could easily be "kept perfectly stable" if banks were prohibited from expanding credit in excess of cash deposits, and if new money "were only issued to consumers by a remission of taxation so soon as more finished wealth awaited sale."

Prof. Soddy seems to be unaware that bank money is normally created to finance goods in process of production, not fixed capital, and that as this process is subject to control by the central bank it is not necessarily inflationary; and he dismisses the fact that income increases and prices tend to rise, not merely as the volume of bank credit expands but also as its circulation accelerates, with the strange remark that "in the so-called quantity theory of money orthodox economists tried to make its value depend inversely on its quantity and *directly* on its velocity"! From his writing he would appear to have read nothing by modern monetary theorists, and his bibliography shows that he attaches no value to their work, for it is practically confined to the sensational literature expounding his own doctrine and those of Silvio Gesell, Arthur Kitson, C. H. Douglas and Howard Scott. Prof. Soddy must know that these ideas have been severely criticised not merely from the "bankers' point of view," but by reformers as progressive as himself; from his book, however, one might suppose that there was no practical alternative to orthodoxy except his own jejune and extravagant proposals.

Mr. O'Duffy cannot be charged with ignoring the work of real economists, for his part of *Life and Money* contains various attacks on their opinions, mainly in regard to employment. But his ignorance and self-conceit are such that he cannot imagine that "Professor" Keynes' views on the problem are more likely to be correct than those derived from Major Douglas' propaganda. It is a sad reflection upon the level of public intelligence on such questions that this nonsense should have gone into a second edition. Mr. Rock's proposals for a new monetary mechanism are relatively sensible if quite impracticable.

An old guild socialist, Mr. Baker's approach is far more scholarly and modest than those of the physics professor and the romanticist. He believes that "orthodox" economists (*e.g.*

Mr. Hawtrey!) "have provided all the data necessary to solve the monetary problem without recourse to the many heretical theories recently advanced." Yet they have somehow "failed to state the Solution," which according to Mr. Baker is the individual regulation of all prices by the various industries. He does not seem to realise that there is already a good deal of regulation of the prices of manufactured goods, but that the method of marketing food-stuffs and materials—to which he does not refer—makes control by the producers practically impossible, and that recovery can only be secured through the raising of the prices of these primary products.

GEOFFREY BIDDULPH

About Money. By E. ROLL. (London: Faber and Faber, 1934. Pp. 248. 7*s.* 6*d.*)

AMID the welter of books that appear every month dealing with monetary problems, Dr. E. Roll's *About Money* affords a welcome relief. In place of strange remedies and nostrums of all sorts, combined with more or less fantastic descriptions of the presumed working of the monetary system, Dr. Roll gives us a well-balanced and unbiased summary of the present state of knowledge, so far as this can be gathered from the published writings of the leading economists who specialise in the realm of monetary theory.

This book has the great merit of linking up the views of English writers, notably Mr. Keynes and Mr. Robertson, with those of continental economists such as Professors Mises and Hayek and others whose names are less generally known in this country. He thus helps to further that continuity of thinking between economists in different countries engaged in the same field of study, which is so important to the progress of economics.

The first part of the book is mainly descriptive and deals with the nature and functions of money and with the organisation for the supply of credit and capital. The second part is concerned with the reactions of the monetary system upon the general economic structure of the country. Amongst other matters he discusses here, in a helpful and clarifying way, the much-disputed conception of neutral money. The last part deals very briefly and a little sketchily with problems of monetary policy.

Although Dr. Roll does not profess to do more than provide "a simple exposition and critical examination of prevailing theories," he gives us, in fact, something which is very different from the usual *réchauffé* of conflicting opinions. Where opposing

views are set out he is at pains to stress the measure of agreement rather than the extent of divergence, and to present the case of each protagonist in its most moderate form, though sometimes, as in the case of Mr. Keynes and Professor Hayek, he is perhaps disposed to narrow down unduly the area of ultimate disagreement. As a rule it is not difficult to discover Dr. Roll's own preferences as between different views; he can come down quite firmly on one side or the other of the fence.

One feature which distinguishes this book from other writings on the same subject is the introduction of the Marxian thesis as one of the possible ways in which monetary phenomena can be interpreted. This standpoint is not developed in any detail, but it is indicated suggestively, and Dr. Roll has done well to remind his readers that "the limitations of monetary theory and policy are set by . . . wider social considerations."

This is a book which may with advantage be recommended to students as a preliminary to the study of more advanced works on the theory of money. It should share with Mr. Robertson's small book *Money* the distinction of presenting the two best short expositions of the subject which have yet appeared; and it may be added that the two books complement one another in a very useful manner.

C. W. GUILLEBAUD

Gold Points a Moral. By J. H. HUIZINGA. (Martinus Nijhoff, The Hague. 1935. Pp. 166.)

Money, Foreign Trade and Exchange. By H. J. WELCH. (Allen and Unwin. 1934. Pp. 158. 4*s.* 6*d.*)

Où va la Monnaie dans le Monde ? By BANNERET DE MATRAN. (Paris. 1934. Pp. 71. 10 *fr.*)

Monetary Opinions and Policy, 1924–1934. By MARY THERESA RANKIN. (P. S. King & Son. 1935. Pp. vii + 158. 6*s.*)

Compulsory Spending. By JULIUS F. STONE, Jr., Ph.D. (Randall Incorporated, Washington, D.C. 1934. Pp. 142. $2.)

The Financiers and the Nation. By the RIGHT HON. THOMAS JOHNSTON. (Methuen. 1934. Pp. viii + 201. 5*s.*)

Gold Points a Moral is a painstaking analysis of the somewhat obvious fact of the breakdown in the post-war world of the action of gold-flows between countries in serving as a corrective of such flows. The recent monetary history of a number of countries (there is some interesting information on banking conditions in France, Switzerland and Holland) is examined in considerable detail, and the conclusion is drawn that the gold

standard can never again function effectively on the old lines. Some additional mechanism of control is needed, and this should take the form, in the writer's opinion, of a World Central Bank.

MR. WELCH started life as a solicitor, became a business man on an important scale, and has now written an able little book on the working of the monetary standard as he has seen it, with special reference to its effects on internal trade, the foreign exchanges and foreign lending. He addresses himself to his confrères in the business world rather than to professional economists, and there can be few people who have not had a specialised economic training but would find their ideas clarified and their minds stimulated by reading his book. As a whole his views are sensible and often suggestive; though he makes a valiant but, in the reviewer's opinion, unconvincing attempt to prove that the banking system cannot create deposits by its autonomous lending and investment policy. Mr. Welch has a pleasantly direct method of writing, devoid of unnecessary subtleties, and much better calculated to appeal to the readers for whom his book is designed than most of the writings of currency experts.

M. DE MATRAN defends the gold currency standard (the gold bullion standard we are given to understand is a highly inferior substitute) with a vehemence which makes up in enthusiasm what it lacks in understanding and the use of a critical faculty. He is, to use an expressive Americanism, a "gold bug" *à l'outrance*.

Monetary Opinions and Policy, 1924–34, is a collection of lectures and articles written at intervals during the last ten years. They are pleasantly phrased and characterised by a marked consistency of outlook. Dr. Rankin is a resolute opponent of all measures or policies, directed to extracting the world from its economic difficulties, which diverge from the straight and narrow path of the reduction of costs and financial orthodoxy. As a whole these essays are rather slight and scarcely stand up to the test of publication in book form.

Compulsory Spending is based on the belief that the cause of the paradox of want in the midst of plenty is to be found in the inveterate unwillingness of earners of incomes, especially of large incomes, to expend what they have earned. Instead of spending they save and in the process contract the incomes of others. Dr. Stone's solution is a simple one: let every American citizen (with minor exceptions) be compelled to spend not less than 75

per cent. of his income, under penalty of having to pay over to the Government in tax all of this part of his income which is not used in the purchase of consumption goods and services. Insurance is treated as a legitimate expenditure for the purpose of the 75 per cent. rule, in the case of small but not of medium or large incomes. The citizen is to be free to save the remaining 25 per cent. of his income; all forms of investment and purchase of capital goods, including insurance (for the larger incomes), being included as saving.

To criticise this scheme on grounds of practicability would be pointless, for its interest lies in its method of approach rather than in the precise form of the remedy proposed. Dr. Stone has the merit, by contrast with the propagandists of inflation, that he is concerned with what happens to money incomes and the way they are utilised rather than with devising yet another scheme for increasing the quantity of money. Where he falls short is in his disregard of the reasons for which income saved may fail to be converted into capital goods to provide additional commodities to be acquired by the income spenders. To discuss the problem of how to maintain full employment, without discussing the causes influencing investment and the bearing of the rate of interest, is to leave the major part of the problem untouched. Moreover, before Dr. Stone can expect us to take a proposal for the penal taxation of saving seriously, he must first convince us that the supply of capital goods (and therefore of the consumption goods they help to produce) is so large that no further increase in their amount would add to the total of economic welfare.

Mr. Johnston has gone pigeon-shooting over the fields of high finance during the last hundred years—it would be more accurate to say that it is at the hawks that his gun is aimed while the pigeons who have been plucked receive his commiseration. The activities of such men as Hatry, Kreuger, Bottomley and Bevan, as well as a host of smaller fry, and many of those concerned with the issue of foreign loans, are described with scathing comment. He has had no difficulty in finding many sitters for his gun, and although he does not invariably bring down his bird, his bag at the end of the day is more than sufficient to prove his main point, that an unregulated system of private investment opens the way to serious abuses.

It must, however, be observed that Mr. Johnston's book (which receives high praise in a preface by Lord Passfield) appears

to be intended to leave the impression that if nearly all borrowers are fools, nearly all lenders are knaves, with the State looking on complacently while financiers and company promoters feather their nests with the plumage of their victims. He ignores the continuous endeavours, admittedly only partially successful, of Parliament to reconcile the problem of protecting the greedy fool from the consequences of his own folly with that of not hampering the legitimate undertaking of risk. Mr. Johnston seems to think that a large part of the community's savings are habitually lost through financial dishonesty; it would be truer to say that the abuses to which he refers have been on the *margin* of the community's savings, though this does not imply that they should be tolerated or that the State should relax its efforts to secure the benefits without the evils of free investment.

Mr. Johnston's own main remedy, apart from the nationalisation of the Bank of England and the extension of municipal banking, is the establishment of a National Investment Board with very wide powers of control over the allocation of capital both for domestic and foreign purposes. He deals with this on very broad lines and makes no attempt to discuss any of the numerous and formidable difficulties involved in the practical working of such a Board, not the least of which would be the quasi-guarantee to the investor resulting from official sanction for a capital issue, and the question of the responsibility of the State for losses incurred.

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NOTES AND MEMORANDA

THE NEW BOARD OF TRADE INDEXES

IN the great days of Giffen, Bateman, Flux and Macrosty the British Board of Trade led the world in its statistical and economic work. Since the War many critics have complained of some tendency on the part of the Board of Trade to rest on its laurels. The complete revision and modernisation of the Board of Trade Index-Number of Wholesale Prices (*Board of Trade Journal*, January 24, 1935) and of the index-number of industrial production (*Board of Trade Journal*, March 28, 1935) come as a welcome reply to criticism, and represent an event of outstanding importance in the statistical world.

The old Board of Trade Index-Number of Wholesale Prices was based on the quotations for 194 commodities, and the weighting has up till now been based on the results of the First Census of Production of 1907 (with the single exception of an increased weight allowed to petroleum products). The modernised weighting is based on the results of the Census of Production of 1930. Weights are assigned to each commodity and class of commodities in proportion to their relative importance in the total of " available goods," that is to say, of output plus imports, in the United Kingdom. An effort is made to avoid duplication between different commodities which represent various stages of a single industrial process. This does not mean that basic products, such as iron ore, raw cotton, etc., are excluded from the index, but the principle may be illustrated by the procedure adopted in the case of coal :—" In the case of coal, for instance, the weight assigned is represented by its importance for other purposes than as a material used, whether as fuel or otherwise, in the manufacture of other goods. It has added to it an importance in respect of its use in the production of gas or electricity, the addition necessary on this account being, however, not in respect of the entire supply of gas and electricity, but only of the output not used industrially."

Although a fairly consistent technique can be worked out on these lines, there are likely to be certain logical difficulties. Such logical difficulties, however, are almost bound to arise so long as the consumer of statistics continues to demand, often for the most dubious purposes, a general wholesale price index-number. Ideally we should only ask for index-numbers representing prices

of goods at certain defined stages of production, *e.g.* farm products, basic industrial materials, finished goods, and should regard as unwise and unnecessary the attempt to combine them into a single index.

The modernised weighting, in fact, has comparatively little effect on the final figures for the last few years. This, however, is accidental, and the component items show very considerable changes. The revision of the weights has brought to light some most interesting results about the change in the relative values, and relative quantities consumed, of different classes of commodities since 1907. Perhaps the most striking of these conclusions is that from 1907–1930 food at wholesale was becoming all the time dearer relative to industrial goods. Taking the ratio of the two groups of prices in 1907 at 100, this had risen to 106 by 1924 and 118·8 by 1930. This was largely brought about by the rise in prices of meat, eggs and fish, all of which were relatively very dear in 1930. Cereals showed a steady fall. By 1934 the ratio had fallen back to 112·2.

Within the industrial group there was comparatively little change. The most striking movements have been those of cotton. The quantitative importance of cotton has been steadily declining, but in 1924 this was more than offset by its very high relative price, and in 1930 its weight had only fallen back to the 1907 level. Another striking feature is the increase in the relative importance of building and contracting, which represented 8·1 per cent. of the gross output of all trades in 1907 and 11·0 per cent. in 1930.

Much the most important feature of this revision, however, is that we now have, for the first time in this country, separate series within the category of industrial goods for basic materials, for intermediate products, and for manufactured articles. Similar subdivisions had previously been made in the Wholesale Price Index-Number of U.S.A., Germany, Sweden and Canada. The results for Britain show more strikingly than anyone could have expected the relative slowness of movement of prices of manufactured goods. Basic materials are more rapid in falling and also in rising, while intermediate products pursue an intermediate course.

Year.	Basic Materials.	Intermediate Products.	Manufactured Articles.
1930	100	100	100
1931	76·6	86·5	93·6
1932	70·7	83·7	92·7
1933	80·2	84·6	93·5
1934	88·0	86·9	94·8

The author points out that a study of the month to month fluctuations reveals comparatively little evidence of any systematic time lag in the movements of these three series.

The old index-number contained very few manufactured goods, and the new series have been made possible by a considerable enlargement of its scope. It now comprises 258 quotations. The manufactured goods now cover a fairly wide range, although they are not yet fully comprehensive; the principal classes represented are iron, steel and non-ferrous metal goods, yarns and cloths, chemicals and oils, wood pulp, timber, and a number of building materials. A separate sub-index is given for building materials. In Germany it has been found possible to construct index-numbers for the wholesale prices of such difficult commodities as clothing, furniture and machinery. So far as can be judged, however, this work is based on a greater willingness of the German manufacturer to submit to inquiries on the part of the Statistical Office than would perhaps be found in this country.

The fact that we now have available an index-number subdivided according to stage of manufacture should prevent the repetition of some of the worst errors of the past decade. Not many years ago, for instance, a certain distinguished authority in a supplement to the *Economist* attempted to determine the relative amounts going to labour, to fixed charges, and to enterprise by taking the Wholesale Price Index-Number as a measurement of the gross return to industry in this country. He thus found himself reaching the surprising conclusion that aggregate profits in the year 1930 were nil. Similarly, there was the notorious Rueff correlation, about which controversy has now died down. By selecting his period, M. Rueff was able to show that the index of British wage rates, divided by the Wholesale Price Index-Number, showed a high correlation with unemployment. He was honestly of the opinion that the British Wholesale Price Index-Number was reasonably indicative of the prices received by British industrialists for their output. In fact at that time the index was almost entirely composed of food-stuffs and raw materials, and so far as the correlation proves anything, it shows that the British industrialist employs fewer men at a time when his raw materials are cheap!

A further improvement in the figures is the calculation of factors of seasonal variation for food and for industrial items separately.

The index-number of industrial production has not been subjected to so drastic a revision. The principal change is the

introduction of a new series for building and building materials, and the calculation of seasonal variations. The series are reweighed on the basis of the net outputs shown in the 1930 Census of Production, the previous index having been on a 1924 base.

On the 1924 base the index-number averaged 103·2 for the year 1930. The ascertainment of the volume of output of these industries at the 1930 census made it possible to obtain an independent check on the methods and data of the index-number. In spite of the fact that 1930 was a year of very steep downward movement and therefore all the data were subject to considerable disturbance, the volume of net output in the industries covered by the index was found to be 103·9 on the 1929 base. "The substantial measure of agreement for the great majority of the constituent series and for most of the separate groups is the more remarkable in the special circumstances obtaining in 1930," says its compiler, with pardonable pride.

The index of building activity, on a 1930 base, stood at 130·2 for the year 1934. The only industry showing anything like a similar rise was Non-Ferrous Metals, with 122·7. Mining showed a decline to 90·6. The new index of building activity was compiled by the combination of two sets of information. In the first place, the returns of the value of building plans passed, supplied by a number of Local Authorities to the Ministry of Labour, are deflated by means of a specially constructed number of building costs and separated into five classes of buildings. To each class of buildings an appropriate lag has applied and building activity in later months is thus estimated. These data are combined with available information about the output of tiles, cement, bricks and glass.

Here again, as in the price index, reweighting has brought to light some interesting and curious facts. Rather unexpectedly, the new index on the 1930 base stands a little lower than the old index recalculated to that year as base. In other words, the old index had an upward bias. An investigation carried out by Professor Douglas (*Journal of Political Economy*, 1930) showed that the London and Cambridge Economic Service Index of Production had a downward bias, and it is probable that the Board of Trade Index of Production had a downward bias before 1929.

The examples which follow explain the reason for this upward bias and incidentally illustrate some rather interesting theoretical principles. Most of the commodities, the volume of output of which had expanded rapidly between 1924 and 1930, had their

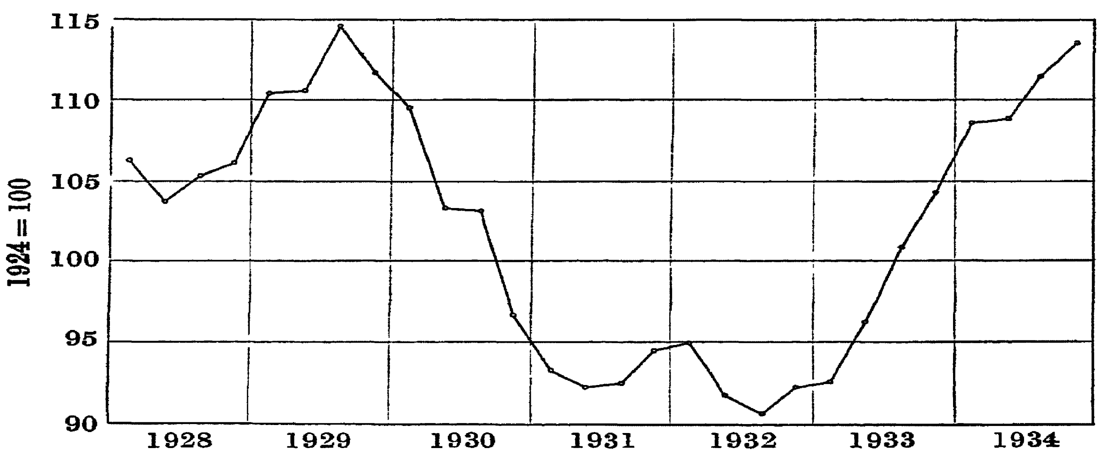
weights reduced when the revision was made. An interesting example is silk and rayon, where the rise in the volume of output was accompanied by a more than proportionate decline in price. The only commodities included in the index which showed an increase in output and an increase in aggregate value were gas and electricity, and there will be many who hold that the prices of these services would have been lower if their channels of distribution had been different.

At the same time commodities whose output was declining for the period, or not increasing so rapidly as the general average, were generally found to require an increased weight in the latter year. The two principal examples under this head are the shipbuilding and engineering trades, and the food, drink and tobacco trades. In the engineering trade in particular, declining output seems to have been accompanied by a rise in prices, and in the manufactured food and drink trades a comparatively slow rise in output is accompanied by comparatively high prices. An exception to this rule is mining and quarrying, where the volume and aggregate value of production have both fallen considerably. However, in this case the next Census of Production will probably reveal an increased aggregate value of output accompanied by a declining volume of production.

A table is given in the *Board of Trade Journal* showing the volume of production adjusted for seasonal variations, for each quarter from 1928 up to date. The purist may recommend one further adjustment. The method of calculating seasonal variations takes into account the fact that, for instance, Easter generally falls in the second quarter of the year, and thereby reduces the number of working days. Our calendar being what it is, however, Easter may occasionally fall in the first quarter of the year, as it did in 1932. A straightforward calculation of seasonal variations can take no cognisance of this fact, and additional allowance has to be made for it. This is not a petty matter, as it may make a difference up to 3 per cent. in the results of any one quarter. The modal number of working days in each quarter are $70\frac{1}{2}$ in the first and fourth, $68\frac{1}{2}$ in the second, and $71\frac{1}{2}$ in the third. Most obligingly 1930 had exactly the right number of working days in each quarter, and also, for the benefit of the reader who wishes to keep the table up to date, will 1935. In both Germany and America the index-number of industrial production is now calculated for each month on the basis of a given number of working days, a procedure adopted by a number of leading industrial concerns. The writer is not an advocate of calendar

reform, in view of the sentimental attachment to the old calendar shown by the majority of men; but for statistical and accountancy purposes the standardisation of the number of working days in accounting periods is a very necessary reform.

The diagram which follows shows the volume of the industrial production plotted quarterly since 1928, corrected for seasonal variations, and with the minor adjustments described above. This enables us to obtain a view of the depression and recovery in this country in a far clearer and more accurate form than has ever been possible before. After a slack period in 1928, the index rose to a sharp maximum in 1929, and then fell heavily, but was beginning to show signs of recovery by 1931. The curve shows very clearly how temporary was the recovery due to the devaluation of September 1931, and it fell to a new minimum in the third quarter of 1932. In some mysterious way, this quarter was a turning-point in every industrial country in the world, and from then a slow recovery began, which was apparently very much accelerated in the early summer of 1933. The curve certainly shows signs of a slackening of the rate of progress, but as yet no sign of definite recession.



COLIN CLARK

Cambridge.

A Mathematical Note on the Economics of Electricity Supply.

The business of electricity supply furnishes a very good illustration of the application of mathematics to economic science, due to the circumstance that the functional relationship between the supply price and the number of units of electrical energy sold per annum is of a simple and determinate character. It is generally accepted by electrical engineers that the cost of giving a supply of electricity is the sum of two components: the overhead cost made up of such charges as rent, interest, loan repayments, and so forth, which are independent of the number of units supplied, and the running cost which is proportional to the supply. If p_1 be the average cost per unit, and n the number of units sold per annum, P_0 the running cost per unit and c the total annual overhead cost per annum, then the supply function can be analytically expressed in the form

$$p_1 = P_0 + c/n.$$

It will be understood that there is a maximum value of n in this equation, which represents the limiting output of the machinery at the power station when working continuously. The ratio of the actual to the maximum output is usually known as the load factor, and the maximum possible value of n for a given value of c corresponds to a load factor of 100 per cent.

When a supply function is of the form of the above equation an interesting result follows when the conditions under a monopoly are considered. It is usually assumed that, in such a condition, there is tendency for the profit to be maximised. If p_2 be the demand price per unit corresponding to an annual sale of n units, the yield of profit will be, for the above conditions of supply,

$$n\left(p_2 - P_0 - \frac{c}{n}\right)$$
$$= np_2 - nP_0 - c.$$

The condition for maximum profit is given by

$$n\frac{dp_2}{dn} + p_2 - P_0 = 0.$$

This equation does not contain c. It therefore follows that if the supply function is of the form given, the value of n which gives a maximum value of the profit is independent of the magnitude of the overhead charge, whatever may be the form of the demand function.

The demand function applicable to the sale of electrical energy

cannot be represented analytically with such exactness as can the supply function. Two assumptions may be made in devising an analytical expression for this function : first, that there will be a limiting price, at which sales will become zero, and, secondly, that as the price is reduced, sales will increase indefinitely. A simple function which satisfies these conditions is given by the equation

$$p_2 = P_1 \frac{N}{N + n}$$

where p_2 is the demand price per unit, P_1 the maximum price at which any sales can be effected, and N the demand for a value of P_2 equal to $\frac{1}{2}P_1$.

The average price per unit supplied under a public authority which is supposed to make no profit will be given by the condition that $p_1 = p_2 = p$. The algebraic solution of the resulting equation is cumbersome, but a very approximate solution can be obtained by assuming as a first approximation that $p = 2P_0$, and is small relative to P_1. Thus

$$P_0 n + c = N(P_1 - p) = N(P_1 - 2P_0),$$

whence $$n = \frac{N(P_1 - 2P_0) - c}{P_0},$$

and $$p = P_0\left(1 + \frac{c}{n(P_1 - 2P_0) - c}\right).$$

To obtain the conditions under which profits are maximised, we see that the yield of profit is given by $n(p_2 - p_1)$, which is equivalent to

$$\frac{P_1 N n}{N + n} - P_0 n - c.$$

Putting $n_1 = N + n$ this last expression can be transformed to

$$N(P_1 + P_0) - c - N\sqrt{P_1 P_0} - \left(\frac{N\sqrt{P_1}}{\sqrt{n_1}} - \sqrt{P_0}\sqrt{n_1}\right)^2.$$

All terms of this expression excepting the quantity within the brackets are constant, and as the square of this quantity cannot be less than zero, the maximum value of the profit is obtained when

$$\frac{N\sqrt{P_1}}{\sqrt{n_1}} = \sqrt{P_0}\sqrt{n_1}$$

whence $n_1 = N\frac{\sqrt{P_1}}{\sqrt{P_0}}$ and $n = N\left(\sqrt{\frac{P_1}{P_0}} - 1\right)$,

from which we obtain the average price per unit supplied as

$$p_m = \sqrt{P_1 P_0}.$$

This average price, it is interesting to note, is not only independent of the overhead charges c, but also of N. Provided, therefore, the demand curve is a rectangular hyperbola which is asymptotic to the horizontal axis, the monopoly price depends only upon the point in which the curve intersects the vertical axis, and not on the slope of the curve at this point, with the additional proviso, of course, that the two curves intersect or touch.

As a numerical example of the preceding results we may take, for the supply function, $P_0 = 0{\cdot}5$ and $c = 2$, n being reckoned in tens of millions of units per annum. This function then becomes

$$p_1 = 0{\cdot}5 + \frac{2}{c}.$$

For the demand function take $P_1 = 12$ and $N = \frac{1}{3}$, then

$$p_2 = \frac{12}{3n + 1}.$$

The average price obtained under conditions of public ownership is found by the approximate expression to be $1{\cdot}10d$. The exact value obtained by solving the quadratic equation is $1{\cdot}11d$. and the corresponding annual sales are $3{\cdot}45$. The average price obtained under monopoly conditions is $\sqrt{6} = 2{\cdot}45d$. and the corresponding value of n is $1{\cdot}3$.

G. W. STUBBINGS

THE CEYLON BANKING COMMISSION

Report of the Ceylon Banking Commission (*Sessional Paper XXII*, 1934. *Rs.* 2).

IT will be remembered that the Ceylon Banking Commission was appointed in April 1934 " to inquire into and report upon the existing conditions of banking and credit in Ceylon and to consider the steps, if any, that are feasible and desirable in respect of the provision of banking and credit facilities for agriculture, industry and trade, and also to make recommendations regarding the desirability of establishing a State-aided Bank and sound local banks." The Commission, which was presided over by Mr. (now Sir) S. N. Pochkhanawala, Managing Director of the Central Bank of India and a banker of great experience and reputation, has now made its Report after an exhaustive investigation of the various matters involved in its terms of reference.

The Report is a unanimous one, unanimous both with regard to its findings and recommendations. After giving a general survey

of the salient features in the economic life of Ceylon, the Report proceeds to give an excellent account of the existing banking and credit agencies, and points to the various defects in the credit system and the need for the establishment of an indigenous State-aided Bank. In the view of the Commission " the existing bank organisation with its nerve centre thousands of miles away and whose management lacks touch with the population is unfitted to meet reasonable indigenous demand for credit. There is no branch banking and most of the present banks have their business concentrated in Colombo. In the matter of internal finance and inland remittances, the present banks are found grossly wanting. They are mainly interested in the finance of foreign trade and there is danger of interference in their financial operations from foreign trade rivalry wherever there is conflict of interest with the internal business. National banking has proved a boon in every country and it is also essential for the economic advancement of Ceylon. Foreign banks and foreign business houses . . . are temperamentally and constitutionally unsuited to help the country's operations to any great extent."

Taking its stand on the position that there is great need in Ceylon at present for national banking institutions, the Commission then proceed to discuss what fôrm national banking activity should take, and after examining the relative advantages of a State Bank and a State-aided Bank, express themselves without hesitation in favour of a State-aided Bank with a capital of Rs. 10 crores, of which the State should subscribe 8 crores in preference shares. The Report recommends that the public should be offered 40,000 shares of Rs. 25 each and thereafter the remaining 40,000 shares should be issued at the Bank's option. It is further recommended that the Bank should have seven or eight Directors consisting of Europeans, Indians and Ceylonese in a certain proportion and that the selection of the first Directors should be made by the Governor on the recommendation of the principal Chambers of Commerce. The Bank's primary function should be the provision of adequate credits for internal economic activities, including agriculture, commerce and industry, and it is also required to provide financial aid of a capital nature to industrial enterprises in suitable cases. A close study of the proposed banking structure reveals that it is planned more or less on the present position of the Imperial Bank of India and to perform similar functions.

The facilities to be created by the State-aided Bank are to be supplemented by the establishment of local banks in important

places, and the chief responsibility for the promotion of these is imposed on the State-aided Bank, which is to be their "banker, friend and guide." The Commission sanguinely expect that "all the local joint-stock banks of different Provinces will keep their accounts with the State-aided Bank at Colombo, which will act as a banker to them and do their agency business. The local banks will work as agents of the State-aided Bank in Provinces; thus there would be complete co-ordination in the future banking structure of the country. . . . Such dealings and points of contact will promote their friendly relations with the State-aided Bank, which by knowing them better will trust them more. This connection will in turn lead to increased confidence in the local bank on the part of the people of the Province and of the general mercantile community."

The reason why this mode of expansion has been preferred to the development of branch banking by the national bank itself is stated to be that "local institutions would offer greater opportunities of service," as "the local directorates will be in a better position to determine the financial requirements of their respective territories and to judge credit risk." But it is also suggested that "if later experience warrants that the expectations in regard to the inauguration of local banking are not satisfied, there should be no bar to the expansion of the activities of the State-aided Bank itself."

One weak point in these proposals of the Commission is that due consideration has not been given to the opposition of the existing banks and the Ceylon Chamber of Commerce to the establishment of any State-aided Bank on the ground that there is not sufficient business for an additional commercial bank of the type proposed and that there are enough credit institutions (though non-Ceylonese) now existing in Ceylon. In view of the very powerful position which the existing foreign banks occupy, it is only prudent not to expect too much from the new bank, unless the opposition to it disappears. Indeed, the Commissioners themselves recognise this and say, "It cannot be denied that 95 per cent. of the trade and industries of Ceylon are directly or indirectly in the hands of Europeans and Indians only, and their co-operation and good-will are, therefore, absolutely necessary not only for the flotation of the Bank but also for its future working. Without this the Bank could have no chance of developing its business and it would fail in its aim of serving the commercial community and of fulfilling the aspirations of the people of this country." But there are no indications in the

Report as to the source or sources from which the rare commodities of co-operation and good-will could be expected, when what is anticipated and feared is unhealthy rivalry.

It is remarkable that the Commission does not recommend for Ceylon a Central Bank capable of regulating both the credit and currency system of the country in the best interests of the economic life of the nation. To quote the Commission's own reasons, " At the present stage of its economic development Ceylon hardly needs a Central Bank of Issue. It is not yet adequately equipped for such a highly advanced and technical form of credit mechanism. A time may come after credit organisations have sufficiently advanced, when, to unify and co-ordinate all the credit agencies and to introduce unity of policy and control of currency and credit, such a bank will be necessary. . . . At the present moment, however, the country is not ripe to have a Central Bank." It is very doubtful whether this portion of the Report of the Commission will find favour with the State Council or with public opinion in Ceylon. In fact the evidence before the Commission seems to have been overwhelming in favour of the establishment of a State Bank in the sense of a Bank of Issue.

With regard to the country's currency system the Report does not contain any very detailed study of the subject, as the Commission thought that this was not specifically included in its terms of reference. But in view of the intimate relation of currency to banking and credit, some consideration is given to this problem and the view expressed that it is " not desirable that any change should be introduced in the present basis of the monetary system of Ceylon, particularly in view of the chaotic conditions which prevail to-day in the world in regard to international trade and monetary matters. The rupee has successfully worked as the standard of external measure of Ceylon's currency. The only demand for change in the present arrangement is on the ground of loss of profit on minting, which at present is solely retained by India." The Commission suggests that this loss can be avoided by substituting Indian and other interest-yielding gilt-edged securities for the rupee portion of the currency reserve. The value of the present monetary connection with India to the economic life of Ceylon is also discussed in detail and it is shown how a change would disturb the Indo-Ceylonese trade and the labour problems of the Island, lead to profiteering and high rates of interest and cause nervousness in external capital at present engaged or likely to come in the service of future economic advancement. The Report says that the Commission's recom-

mendations in this connection are also supported by the conclusions of previous Currency Commissions.

In addition to the main recommendations the Commission also makes certain suggestions for the relief of rural indebtedness and proposes *inter alia* the establishment by Government of an "Agriculturists' Redemption Fund" to help the rural debtors and the formation of "Conciliatory Boards" in different districts to bring about a reconciliation between the debtors and creditors in respect of their transactions, especially relating to mortgages on land. Further, in order to assist the agriculturist to get a fair price for his crops, the formation of marketing societies under the supervision of the Agricultural Department and the establishment of an Advisory Board to co-ordinate the activities of the various societies as well as to guide them in their work are also recommended.

In order to encourage investment and saving and facilitate the banking habit there are also some useful suggestions. Besides recommending the abolition of the stamp duty on cheques as in India, and the creation of new channels of saving in the form of Postal Cash Certificates, Treasury Bills and investments in building societies, an amalgamation of the Ceylon Savings Bank and the Post Office Savings Bank, decentralisation of the working of the Post Office Savings Bank and the liberalisation of the rules of withdrawals are also suggested in the interests of popularity, efficiency and unification of the Savings Banks working in the Island.

Other recommendations of the Commission include suggestions with regard to (i) the improvement of banking regulations, the issue and renewal once in three years of licences for carrying on banking business in the Island, and the maintenance of a Register of Banks; and (ii) the creation of an Economic Advisory Council to study economic questions and carry on research and a separate Department of Statistics to collect reliable statistics, the want of which was a serious handicap to the Commission in certain respects in the pursuit of its task.

A. RAMAIYA

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COMMENTS ON THE NEW INDIAN CONSTITUTION AND FINANCE.

(1) PROFESSOR ADARKAR'S note on the economic aspects of the proposed Indian constitution (ECONOMIC JOURNAL, March 1935) emphasises that the economic aspects are less satisfactory than the political aspects and "that India's economic freedom, whether

in the financial, fiscal, industrial or monetary sphere, is hedged with limitations." This is broadly true, but it is well to bear in mind one or two points. First, in relation to Safeguards, and in particular financial safeguards, the anxiety of the people in our country to reduce all safeguards in the sphere of Finance to a minimum is perfectly intelligible. Self-government which does not involve financial independence is self-government in a very truncated form, and safeguards can easily be interpreted as a form of distrust. But the Indian administration will need to borrow money, if only to replace existing loans, many of which are falling within the next few years. Apart from these, there may well be need to borrow money for legitimate productive purposes. India is a poor country and it will make a great deal of difference what rate it has to pay for its money. The rate will be low so far as the potential lenders, which means in the main the City of London, have confidence in the conduct of India's finances, and high in so far as they have not. On account of default by borrowing governments in every part of the world, everyone wants double security for his money to-day. India is now to take her destinies into her own hands and is likely to make mistakes, as is likely in every country in the early stages of its political evolution, and there is reason to believe in India's capacity to manage her own affairs better than a great many other independent States. But India cannot afford to add to her own difficulties. Provisions which would place the service of foreign loans beyond all suspicion are in the long run more in India's interests than in anyone's. The best security the City of London can have is in the creation of a strong and stable Indian Government which would keep up India's foreign credit.

(2) It is perfectly true that in the twin instruments of public finance and monetary policy we might have the true criterion of the success or failure of the new constitution. The self-rule of the Indian people or *Swaraj*, if it is to fulfil its cherished ends, must be based on sound financial resources. This does not necessarily mean that high taxation is a necessary condition of the successful working of self-government. Taxes will have to be levied in future according to people's capacity to pay. But it is well to note that though high taxation is not a condition of self-government, neither can low taxation be necessarily expected as its result. The true test of the sound financial administration of a self-governing India does not consist in raising less revenue or retrenching more expenditure than at present, but in raising revenue wisely and spending it productively. Nothing is more

naïve than the view entertained by some people in this country, that under a national régime the government of the country will be less expensive or that the taxes levied will be lower. Economy can and must be effected, of course, in several directions, but the cost of administration as a whole under the new political order will not markedly fall off. Whatever might be said against Federation as the true solution of the Indian constitutional problem, it is clear that financial arguments cannot be used as a real obstacle to Federation.

(3) It is the banking and monetary policy of the Indian Government that has been severely, and to some extent deservedly, criticised by Indian economists and publicists. The Reserve Bank of India is undoubtedly a great step in the unification of currency and credit. Few will quarrel with the fundamental principle on which the constitution of the Reserve Bank is based, viz. that it should be free from any political influence. But what shall we say of the special responsibilities of the Governor-General in relation to the Reserve Bank? It would in practice amount to his obeying the directions of the India Office and the City of London. It would be a *reductio ad absurdum* of the whole scheme if, after excluding the Indian Legislative and Federal authority of patronage in the matter, on the ground of necessity for the elimination of political influence, the Government or the Joint Committee should consider it right to introduce what India has always condemned as the worst political influence that has been brought to bear on its financial administration, namely, the intervention and control by Whitehall or London City. Rightly or wrongly there is an impression in certain quarters in India that the Reserve Bank is designed to be a tool in the hands of the City of London and tied to the chariot-wheels of the Bank of England. It behoves, therefore, the governing body of the Reserve Bank to steer clear of any such suspicions in the larger national interests of India.

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OBITUARY

EDWIN CANNAN

EDWIN CANNAN, who died on April 8th this year, was born in Madeira on February 3rd, 1861. His mother, for the sake of whose health the family had gone to the Island, died eighteen days after his birth. They returned to Bournemouth, where he spent his boyhood. His father, D. A. Cannan, had been agent for a firm of galvanised-iron manufacturers in Australia, and had been there during the Victorian gold-rush. He retired in 1858. It appears that the Cannan ancestors had come from Scotland [1] to the Manchester district towards the end of the eighteenth century, and had there made a modest fortune. Cannan himself enjoyed an income which did not depend on his professorial activities.

Edwin and his elder brother, Charles, who was for many years secretary of the Clarendon Press, were educated at Clifton College in its early days under Dr. John Percival. Charles went to Trinity College, Oxford, and in 1880 Edwin followed him to Balliol. His work was interrupted by illness, and in search of health he voyaged round the world.[2] Consequently, he took "Groups" for a Pass Degree, and included the Economic Group. He took his B.A. in 1884 and his M.A. in 1887. He won the Lothian Prize by an essay on "The Duke of Saint Simon," and in 1886 competed unsuccessfully for the Cobden Prize, which was won by (Sir) H. Llewellyn Smith.

Though he lived at Oxford all his adult life, at an early date in Wellington Street and later in Chadlington Road, and was associated with the Oxford economists for nearly fifty years, he never held any official appointment in the University, except as Sidney Ball Lecturer in 1931.

In 1907 he married Margaret M. Cullen, his second cousin. Their only child died in 1918.

Cannan's first published work was *Elementary Political Economy* in 1888 (Oxford University Press). In the Introduction to *The Economic Outlook* (1912) he gives a vivid account of his education in economics, beginning in the lower-fifth form at Clifton in 1877 with the study of Mrs. Fawcett's *Political Economy for Beginners*,

[1] In letters Cannan says his father was Scotch, and that the name originally was A'Cannan in Galloway. He was named Edwin after his godfather, Edwin Chadwick.

[2] His delicacy continued for several years, and prevented his going into College. From 1886 to 1891 he devoted himself to writing, and received students in his lodgings in St. Giles.

from which may be dated his revolt from the teaching then traditional. He follows with an account of his Oxford experiences, his conversion under A. L. Smith's influence by the "Historical Spirit," and his subsequent return to economics; on this he writes: "Fawcett's exceedingly unplausible boiling-down of Mill awoke, in 1883, all my native scepticism, and made me look about for new lights." His Cobden Essay became "an attempt to reconstruct general economics," while his successful competitor apparently kept to the subject set, and this rejected essay developed into his first book. This first effort at reconstruction met with little recognition or success.

Apart from writings in the *Economic Review*, the organ of the Christian Social Union, which began publication in 1891, Cannan devoted three years to the studies which led to the work which first brought him recognition, *A History of the Theories of Production and Distribution in English Political Economy, from 1776 to 1848*, published in 1893.

His career as a teacher began in 1895, when the London School of Economics and Political Science was founded. In the first Calendar of the School his name appears only as giving four public lectures on the History of Rating, which were published with additional material as *The History of Local Rates in England* (1896). But in fact he shared the classes in Economics with W. A. S. Hewins, the first Director of the School. The School was started at 9 John Street, Adelphi, but after a year moved to the corner of Adelphi Terrace. One of his first students, now a Professor in the University of London, remembers that the class consisted of three members, who sat round a table with Cannan in the basement of the building, and proceeded by informal discussion.

From this small beginning the teaching of Economics developed with the growth of the School; at first slowly, and then, after the change to its present site, rapidly. With the institution of the degree of B.Sc.(Econ.), the School became a "School of the University" and Cannan an "Appointed Teacher of Economic Theory." At the date of his retirement, 1926, the large lecture-room could hardly contain his classes, and his earlier pupils were his colleagues. The title Professor was conferred in 1907, Emeritus in 1926.

From the beginning Professor Foxwell lectured on Banking, and for this reason among others Cannan published nothing on the subjects of Banking or Currency till the War. *Wealth*, with the sub-title "A brief explanation of the causes of Economic

Welfare " (1914), is stated by the author to have " been gradually evolved out of the annual course of lectures which I have given for first-year students—since 1898 "; in this there is no discussion of money at all. This cannot have been for want of interest in the subject, for Cannan made a collection of pamphlets and books by " currency cranks," till their output was too large for his library.

While *Wealth* may be regarded as a development of his early *Political Economy*, the book which contained his lectures to second and third year students, namely, *A Review of Economic Theory* (1929), is in part a supplement to the *History of Theories*, etc., continued up to the date of publication. Again, neither money nor banking appear in the Index; Ricardo on Currency is given two pages, and there are also two pages on the bank-rate. It is perhaps hardly necessary to say that this book is of much wider scope than was that of 1893. Though to some extent in historical form, the line of thought is the development of accurate definitions and the approach to what Cannan regarded as correct and useful. The method is the criticism of what was imperfect, ephemeral, or erroneous. The description " An Orthodox Economist " at the head of the Obituary in *The Times* of April 9th would have caused Cannan to think that a word was for once used in its literal meaning.

In the first years of the School the lecturers were only present for one or two periods weekly, and even after its removal to Clare Market and its extension to Houghton Street, Cannan came up from Oxford only on two or three days, and never made his work there a full-time job. In consequence he was able to pursue his study of the writings and lives of the older economists. The principal result was the work which many consider to have been his greatest achievement—*An Enquiry into the Nature and Causes of the Wealth of Nations. By Adam Smith. Edited, with an Introduction, Notes, Marginal Summary, and an enlarged Index. By Edwin Cannan, 1904.* An economic historian writes of it: " the editing is peerless, as are the introduction, the running analysis, the square bracket notes, and the additions to Adam Smith's own index." A preliminary to this major work was the editing in 1896 of Adam Smith's lectures from manuscript notes made by a Glasgow student. Also two letters of Adam Smith were published with notes in 1898.

Cannan's own library contains a collection of eighteenth and early nineteenth century economists' writings, used for the edition of Adam Smith and *The History of Theories*. It is said

that he had all the editions of the *Wealth of Nations* down to about 1900, and all the important editions of most other writers of the period. The complete Library has very generously been presented by Mrs. Cannan to the London School of Economics, where the main collection will be kept under his name.

A complete list of the papers on various economic topics written or published before the War would be very extensive. A selection of them was issued in book form in 1912, under the title *The Economic Outlook.* The book does not, however, contain any papers on the growth of population, his interest in which is first shown in his earliest contribution to the ECONOMIC JOURNAL: "The Growth of Manchester and Liverpool, 1894." In 1895 he wrote a paper very remarkable for its statistical foresight, entitled the "Probability of a Cessation of the Growth of Population of England and Wales during the Next Century," read at the Ipswich meeting of the British Association and published in the ECONOMIC JOURNAL. It was based on the assumptions that the rate of mortality and loss by migration would remain constant for each age group, and on the working hypothesis that the birth-rate reckoned on the number of persons between the ages 20 and 40 would fall from 10 per cent. as it was then to below 8 per cent. in 1921, and thereafter remain stationary. On these assumptions the population would reach a maximum of rather over 37 millions about the year 1995 and there remain. The thesis did not depend on the numerical accuracy of the forecast, but on the perception that without any violent changes a cessation of growth was probable. There have been violent changes, and now it is held that the stationariness is near at hand at a figure a little higher than that just named. I may interpolate that the hearing of this paper was at my first introduction to Cannan, and that I used the diagram that illustrated it—the only one that I have found in his writings—as a model of graphic representation in lectures for several sessions. The paper was to some extent a by-product of his continual criticism of the Registrar-General's statistics; this found its main vent in the only paper he contributed to the Royal Statistical Society (of which he was a member from 1889), entitled "Demographic Statistics of the United Kingdom: their want of Correlation and other Defects." This paper is said to have "fluttered the dovecots of the permanent officials by its outspoken damnation of their failings."

In *Who's Who* (1905) Cannan's recreations are stated as "Cycling since 1888, history of English roads, municipal government, demographic statistics, and (formerly) correspondence with

government departments." All these "recreations" were taken very seriously. What is sometimes called the theory of population was an essential part of his economic teaching. His first statement of an "optimum" population was in 1888. "At any given time the population which can exist on a given extent of land, consistently with the attainment of the greatest productiveness of industry possible at that time, is definite" (*Elementary Political Economy*, p. 22). The more developed ideas of the relation of population to area are found in one of his two last published writings, a review of *The Ministry of Labour's Reports*—(on) *Distressed Areas, Economica,* February 1935.

Similarly, the recreation of municipal government was interpreted not only in his *History of Rates* but also in very serious work as Member for the University of the Oxford City Council for some years. At the time of his death he was actively engaged in fighting the battle of a new working-class estate, the inhabitants of which had been shut off from the main road by a wall built by a speculative building company.

In the War period his writings are principally on currency and prices. They are so recent, and so easily accessible in *Money: its connection with rising and falling prices*, 1918, fifth edition, 1924, and in the series of letters and articles in *An Economist's Protest*, 1927, that there is no need to describe them here. But it should be said that he held to the "cloak-room" nature of bank credit to the last.

The last article published by him was, however, of a different nature. In "The Existing Economic System" (*The Highway*) he argues that we have gone a long way from *laissez-faire*, and the system "is making great progress towards the economic ideal of distribution according to need without sacrificing production."

Since in the *London Essays in Economics*, 1927, a Festschrift by eleven of Cannan's former students, most of whom were themselves teachers of Economics, the papers by Dr. Dalton and Professor Gregory sum up Cannan's general contributions to Economics and his more recent monetary theory, it is unnecessary to make any attempt to do so here. But something may be said about his general method of approach. From the first to the last the object of his teaching and writing was to apply the criticism of common sense, couched in non-technical language, to economic theory, without respect of persons and without acceptance of any formulæ. A few phrases from *An Economist's Protest* illustrate this. "Ordinary language, which is the most important language" (p. 221). "I never—insinuated—I said

point-blank" (p. 114). "We had not then become convinced that nothing in economics can be both simple and true" (p. 256). "Much of the trouble arises from the fact that some of us don't want to write really elementary stuff, and those who do can't do it intelligibly. Consequently there is no popular comprehension of how we actually live" (p. 409). "I hope what I shall say is true; but as for newness, I can only be like the candidates for Ph.D. degrees, who when their supervisor says, 'I can't see that you are discovering any new facts,' plead, 'But don't you think I might be held to have exercised independent critical power?'" (pp. 417–18). "In the rude language of everyday life, a big well-distributed and steady income is better than a small ill-distributed and violently fluctuating income, especially if the fluctuations fall chiefly on the poor. Must we read 108 pages to make sure that we are right in believing this?" (p. 267).

This outspokenness and his inability to "suffer fools gladly" tended to make enemies of those who did not know him personally, and perhaps his reiterated destructiveness tended to lose effect. But in fact his criticisms of the older writers were constructive and based on full appreciation of their importance. He devoted many years to the exact interpretation of Adam Smith; he named his son David (I believe) after Ricardo. He was on terms of intimacy and friendship with most living economists in the United Kingdom and to a less extent in America, and they understood his attitude. If one was fortunate enough to be approved, one was sure that an argument put forward was sound and satisfied the criterion of common sense. "Let the righteous smite me; it shall be a kindness: and let him reprove me; it shall be an excellent oil, which shall not break my head." This is the authorised version of Ps. cxli. Some of the sufferers from his criticism, however, thought rather of the Prayer Book version, "let not their precious balms break my head."

In furtherance of his desire to express himself clearly in the vulgar tongue, Cannan never used an algebraic formula or diagram in his published work; the only exceptions that I have found are in the population diagram already named, and in a quotation from Keynes (*Protest*, p. 387). The words he supposed Adam Smith to utter may or may not have expressed his own view:—"The very ingenious speculations of Mr. Jevons, Mr. Marshall, Mr. Edgeworth and others, who have introduced a sort of algebra or geometry into the science of political economy. The followers of that system are very numerous; and as men are fond of

appearing to understand what surpasses the comprehension of ordinary people, the cypher, as it may be called, in which they have concealed, rather than exposed, their doctrine, has perhaps contributed not a little to increase the number of its admirers" (*Protest*, p. 334).

It may be doubted whether Cannan was not one of the ordinary people of this quotation. In his article "Total Utility and Consumer's Surplus" (*Economica*, Feb. 1924, pp. 23–4), he writes of what is, in fact, an ordinary demand curve, "a method which involves, not a single hypothesis, but an indefinite number of different hypotheses, each of which is inconsistent with all the others as well as with the actual facts." "Inconsistent hypotheses which no one would ever have thought of if it had not been suggested by the 'space' which happens to be included under the curve of a demand schedule."

Whether from want of comprehension, or of deliberate choice, in the *Review of Economic Theory* there is no statement of the formula of the measurement of elasticity, marginal utility is not expressed as a limit, equilibrium is not named—at least in the index,—there is no reference to Pareto, not even to his "law" of income distribution. He could effectively criticise the results obtained from mathematical analysis if they offended the criterion of common-sense, but it is doubtful whether he followed the arguments which led to them. He followed Ricardo (*History of Theories*, pp. 323 *seq.*) in cumbersome arithmetic without arriving at a proof of the conditions under which Ricardo's doctrine of money rent were valid.

To return to more personal matters—Cannan was elected a member of the Oxford University Political Economy Club in 1893, was an active member of it for the rest of his life, and tided it over some difficult periods. He was a member of Council of "The British Economic Association," now The Royal Economic Society, from 1897, and its President in 1932–4. His lifelong interest in the Economic Section of the British Association began with membership in 1890. He was a secretary of the Section from 1894 to 1898, then recorder till he was elected President in 1902, an office which he again held at the Centenary Meeting in 1931.[1] He twice attended its meetings in Canada, and on the second occasion (1924) visited the United States. Otherwise, except for a lecture tour in South Africa after his retirement, he seldom went abroad. Partly owing to his residence at Oxford,

[1] Subjects: "The Practical Utility of Economic Science," Belfast, 1902; "The Changed Outlook in Regard to Population," London, 1931.

he refused to be nominated for membership of the London Political Economy Club.

He was granted the honorary degrees of LL.D. (Glasgow) and Litt.D. (Manchester).

Cannan as a writer and Cannan as a friend or teacher were at one time the same and different men. His exactness of statement and of detailed knowledge was as manifest in relation to the roads of Great Britain and the history of real property in Bournemouth as in the texts of the *Wealth of Nations*. The personal expressions of his opinions of some economists were equally definite. But his helpfulness to all, especially the unassuming, his readiness in every minor emergency whether in Committee or on the highroad, the sense of trustworthiness and loyalty, were familiar only to his associates. When I first met him at the Ipswich meeting of the British Association in 1895, he was with two other bicyclists, Edgeworth and Gonner. There was no sign of his earlier illness; he was at any time prepared to ride a hundred miles, and the story is told that when he failed to find a book at the Bodleian, he merely said "—then I must go on to the British Museum." During the General Strike at the age of 65 he rode to and from London to lecture; but soon after that date he bought his car, familiarly known as "Lucy," in which he continued his recreation of the study of English roads and the inaccuracy of their milestones. For thirty years I expected to meet him wherever I was in England, Scotland or Ireland, by punctual appointment at some sign-post, equipped if necessary for the night with his luggage in a large envelope marked *On His Majesty's Service*. Bicycling and gardening were his only forms of exercise. He never walked if he could bicycle, even to the nearest letter-box. To many people he is identified with the School of Economics in the years before the War, where he always seemed in Common Room and in Committee to carry in himself the essential life and character of the Institution, the activities of which were not so widely spread then as they are now. But a host of others will remember him best at his house at Oxford seated in his unique library, approached past an inch ordnance map of the roads fifty miles round Oxford. But it is idle to attempt to describe his strong personality to those who did not know him, or to express the sense of irreplaceable loss.

A. L. BOWLEY

A Student's Recollections of Edwin Cannan

By the time I came to the School Cannan had given up lecturing on Elements, so that although we conned over his *Wealth* for the intermediate examination and heard countless legends of his prowess, he was little more than a name to students in their first year. A picture of a short, bearded man in exceedingly shabby clothes threading his way through the refectory to his seat at high table is the chief impression left on my mind from that period. "That's old Cannan," we would whisper to each other. The familiar "Edwin" only came when one had sat in his classes.

But in the second and third years he dominated our horizon. Why he did so and how he did so it is extraordinarily difficult to say. Yet no one who ever sat under him would deny it for a moment. Certainly he was not a good lecturer, at any rate in the ordinary sense of the term. He could deliver a very lucid and popular lecture when he set himself to do so, as his presidential addresses to the R. E. S. have demonstrated. But his normal lectures on Principles were not of this quality. It was not always possible to hear him. His delivery was never fluent and he had a habit of talking into his beard which made parts, and often the most important parts, of his lecture almost inaudible unless you were sitting in the first two rows. Moreover, they were not arranged with a view to the convenience of beginners. Cannan took great trouble preparing them, and when he came to write his *Review of Economic Theory* he was able to transcribe large chunks often without great alteration. But they went straight to the point whether simple or difficult. There was no preliminary statement of what he proposed to do. No summary of what he had done. He expected you to find that out for yourself. I well remember my first lecture with Cannan. For some reason or other he was wearing his doctor's cap: he was the most informal of men regarding the proprieties, but from time to time inexplicably the cap would make its appearance, and this was one of the occasions. The cap was perched at a jaunty angle on his head and his mood was in harmony with the cap. The lecture dealt with the Physiocratic theory of distribution. Cantillon, Mercier de la Rivière, Dupont de Nemours, Quesnay, all pronounced in a highly anglicised manner (no phonetics could possibly reproduce the flavour of Cannan's French), rapidly appeared on the stage without any preliminary comment. Passages were read aloud, much too rapidly for assimilation and annotation. One gathered that the passages were absurd but that it was

important that they had been written. Followed a lengthy and not always audible discussion of the derivation and uses of the word *distribution*. All sorts of people had used it in different senses. It was not quite clear at the time which sense the lecturer favoured. And so on. I was in complete despair and so were the rest of us who were beginning. But the third-year people who had already had a year of it appeared to be highly edified. So spurred by emulation with them, and encouraged by Mrs. Knowles, who confided to us that she had suffered a similar ordeal herself ("You can't understand a thing he says at first, but gradually you see he's talking very good sense"), we kept on. It was not easy. At the end of a term and a half I was still *hors de combat* for half the lecture, although I had by then learnt the trick of getting in the first two rows with the third year *élite* and I could thus usually hear what he was saying. But in the Easter Vacation I borrowed Benham's notes, collated them with my own, copied out the passages from the classics I had missed and wrote the whole thing out up to date in longhand. Then daylight began to appear. By the third year those of us who had survived had the hang of it completely. We hung on every word, and woe betide the beginner or the outsider who said a word against him. We *knew*!

Cannan's lectures in those days were spread over two years. One year he dealt with Production, the next with Distribution. The Distribution lectures, in fact, assumed a considerable knowledge of the theory of production, and those who came in half-way through like myself found some difficulty in catching up. But he had strong views concerning the utility of the arrangement. It kept him fresh, since he didn't do the same thing every year. As for the students, if they had anything in them they soon picked it up. This sturdy assumption that he was catering for first-class students only was very characteristic of the tone of the lectures. Cannan never recommended any books. But he expected that we should read all that mattered. Turn a good man loose in a well-stocked library and he'll find his way about quickly enough, was his motto. Certainly it made us work. By the end of the second year most of us, specialists or non-specialists, had read, or at least sampled, Smith, Ricardo, Senior, Jevons, Marshall and Böhm Bawerk, which I fancy is a good deal more than is read by the present generation of students. There was nothing he despised more than spoon-feeding, and one of his most devastating reviews was of an American compilation of selected passages from the best authors.

But it was not only through his lectures that Cannan exerted his tremendous influence. Once a week he held classes, nominally for specialist students, but in fact open to all who cared to come. (It is an interesting fact that most of his students who have subsequently attained distinction as professional economists did not start as economic specialists but rather gravitated towards economics in spite of their specialist preoccupations with other options, fascinated not only by the technique, but by the outlook of the man who taught it.) There was nothing very novel about the technical procedure of the classes. Cannan would give out subjects for papers, and at the appointed dates the papers would be read out aloud and criticised. But the mode in which they were conducted was like nothing ever seen before or since. Cannan would usually sit sideways on an armchair, his legs over one arm and his head cocked up backwards so that his beard often seemed pointing to the ceiling. He very seldom made any formal introduction to the paper and his comments were often restricted to questions: "Why did you say that, Mr. So-and-so?" or to the negative, "I doubt whether there's much in that," often preceded by a sort of humming noise which seemed to come from the top of his impressive head. If he did say more, it was usually to relate some homely story, illustrative of some point raised either in the paper or in the subsequent discussion. But the effect was out of all proportion to the words used. Nobody ever heard Cannan angry. He was, in fact, the sweetest and gentlest of men. But we approached the classes in sheer terror lest we should let the standard down and incur one of those devastating glum silences. I have never witnessed any process of debunking which had a fraction of the efficiency of those classes. A foreign student who had been long enough at the School to know better once read a paper on some aspect of industrial fluctuations. It commenced with an interminably verbose methodological introduction on the subjectivity of time, with a lot of very irrelevant and pretentious stuff about relativity. Those of us who knew our Cannan hugged ourselves with anticipation. At last there was a premonitory hum from the chair. The beard tilted if anything even more upwards. "Look here, Mr.—all this may be true enough, but that piece of machinery on the wall," pointing to the clock, "keeps on going round. If you don't pay attention to it, we shall never get to the subject."

Time goes on and much progress has been made in different departments of our Science since those days. Some of the things which Cannan taught us have been refurbished in new terms.

Others, I think, though much remains, have perhaps even been shown to have been wrong. I have often asked myself—What was it which Cannan gave us which makes all of those who came in contact with him regard his teaching as perhaps the most important influence in their lives?

I do not think it was the critical spirit. There is no doubt that Cannan had the critical spirit in a very high degree and communicated his own detachment and lack of respect for authority as such to most of his pupils. But it would be a great mistake to regard this as his most important attribute. Indeed, I am sure this side of his influence may be exaggerated. It is quite true that his lectures were sprinkled with apparently irreverent references to authority. The mistakes of the great, from Ricardo to "Old Marshall," were certainly not lovingly covered over,[1] and it is possible that to outsiders this may have given the impression of a spirit which was mainly critical. But it was not so. It was a case of "whom he loveth he chasteneth." The *Principles* of "Old Marshall" stood ranged on his shelves from the first to the eighth edition—I think there was a gap round about the fifth or sixth—well thumbed and collated; and although Cannan never tired of assailing what he thought was uncritical acceptance of Marshallian doctrines, yet woe betide the student who did not take pains to make himself acquainted with the work of the Master. It is no accident that to-day at the School of Economics, Marshall is read and taught as nowhere else but at Cambridge. Nor was it different with the others. In his published work he was always particularly hard on Ricardo, to whose work I am bound to say in some places I think he sometimes did less than justice. But I well remember the reply when one day I asked him whether a fascination with Ricardo and the Ricardian literature was not really an acid test of whether an economist had the root of the matter in him. "Hum! You do get a sort of affection for him in spite of all his muddles."

Nor do I think the debt consisted chiefly in the actual things he taught us. There can be no doubt that the sixty-lecture course with its broad conspectus of the best of economic thought up to Marshall with Cannan's own positive and critical comments, was a magnificent training in general economics, catholic and precise, at once a safeguard against immersion in the doctrines of any particular School and neglect of doctrines which already had been discovered. And no one who sat under Cannan could fail to feel that Economics, however abstract and general its

[1] There was always much more tolerance for Adam Smith.

initial propositions, was a science with the most intimate bearing on the great problems of human welfare. He criticised in detail the work of the classical economists, but something of the broad sweep of their system informed his own view of the economic process as a whole.

But it was not the positive content of what he taught which gave his teaching what one feels is its lasting value, so much as the attitude from which it sprang. Cannan was a great systematiser of knowledge. But he was not a system maker. What he communicated was not so much a body of doctrine as a technique of approach—a sense of proportion—an obligation to attempt to get things in their proper perspective. I am far from suggesting that those of us who sat under him have all profited from this as we should. But I do not think that it can be possible for any of Cannan's pupils ever to become completely immersed in any particular investigation without at some time hearing at the back of his head the friendly "But what does it all mean if you look at it broadly?" It was this attitude, I think, which explains his attitude to modern analytical economics. It has been said recently that he had no sympathy with these developments. This, I think, is much too strong. Cannan had no objection to analysis in the hands of people whom he thought to have a proper sense of perspective, though he may sometimes have thought that they spent too much time on it. But he did insist that when the mathematics were all over the question should be asked, "What does it mean in economic terms? How important is this in helping to understand reality?" For the same reason, he was impatient with what he regarded as over-preoccupation with exceedingly short-run effects. What he wanted to know was the secular influence, the long-period trend of the big causes. This is no doubt an unpopular attitude in our hectic and precipitate age. But who can doubt that, if the world is to live, it must once more come into its own?

There is another aspect of Cannan's influence which ought not to pass without notice—his internationalism. He says somewhere that he had tried to be a good *mundane* economist, and everything he did justified this claim. In many respects Cannan was a very typical Englishman. He enjoyed travel, but all his love and interest were reserved for his own countryside. Certainly he shared to the full the Englishman's almost naïve capacity for seeing the comic side of foreign habits. But he had no use for the business of frontiers and he regarded civilisation as one. So great indeed was his contempt for the belief that

there was any difference between trade within and trade across frontiers that he always steadfastly refused to lecture on international trade and rather ostentatiously chose his examples of inter-regional exchange from counties rather than countries.[1] It was one of his boasts that throughout the War he kept the portrait of Karl Menger hanging on the wall of his room at the School; and when the War was over he refused to write at any length on the transfer problem, fearing that the exposure of the economic fallacies, which were often involved in the arguments against even a moderate reparations settlement, might seem to give approval to the draconian clauses of what he regarded as an unjust peace. I often think, when I am told of American or Continental accounts of totally mythological feuds between London and other English universities, that our difference from other seats of learning can be greatly overstressed. But if there is a difference between a Cannan man and others, it is, I think, that he will perhaps feel a greater instinctive disgust than most at discussions in terms of the desirability of this or that limited advantage for this or that national area—a greater sense of betrayal at the spectacle of economic analysis in the service of economic nationalism. It can be urged (I think rightly, although Cannan would have disagreed) that this attitude springs, not from Economics as such, but from Social Philosophy. But I do not think it is a reproach to Cannan that besides being a great teacher of Economics in the narrow sense, he was also a social philosopher of the lineage of David Hume, Adam Smith and Bentham. And I do not think that many who worked with him will be discontented in that faith to live and to die.

LIONEL ROBBINS

SIR HENRY CUNYNGHAME

THE death of Sir Henry Cunynghame on May 3rd, 1935, in his eighty-seventh year, takes from us the first in the long succession of Alfred Marshall's favourite pupils, one of outstanding gifts and of considerable accomplishment in the early days of what he called "geometrical economics."

Cunynghame, who came of military and legal stock, the son of a general and grandson of a Field-Marshal (Viscount Hardinge), descended on the one side from Lord Chancellor Thurlow and on the

[1] He once said to me: "C. K. Hobson's book on the Export of Capital is one of the best things ever done at the School. But I wish he'd never written it. Ever since it appeared people have been worrying themselves to count up things which went on quite all right when they were left alone."

other side from Lord Chancellor Camden, wavered at first between the two hereditary influences, and joined the Royal Engineers before he decided to come to Cambridge with a view to the Bar. In 1870 he entered St. John's College and, reading for the Moral Sciences Tripos, came immediately under the influence of Alfred Marshall, who had been lately appointed to a lecturership in Moral Science in the College, and of H. S. Foxwell of the same College, who was Senior Moralist in that year. Cunynghame was second Moralist in 1873,[1] the year after Cunningham and Maitland were bracketed senior, the year before James Ward was senior and two years before my father, J. N. Keynes. He was probably the first to whom Marshall's drafts on the Pure Theory of Foreign Trade and Domestic Values were communicated.[2] When in 1904 Cunynghame was writing his book on curves, Marshall wrote to him to remind him of the history of the old Foreign Trade curves on which he had been brought up. "This is long," Marshall's letter concluded, "but I do not apologise. For it takes us back to those queer rooms with the little windows close to the floor, from which I used to look out on noble elms, and in which I used to see some faces that I still love very much: and to one of these this is sent by a worn-out old pedagogue Alfred Marshall."[3]

The impression produced on Cunynghame and the stimulus to his thought were enduring;—nearly twenty years later he was the author of the first article on mathematical economics to be published in the newly founded ECONOMIC JOURNAL (1892), and thirty years later (1904) he published his *Geometrical Political Economy*. Mrs. Marshall writes to me thus, recalling those days:—

> Henry Cunynghame was a favourite pupil of Alfred's in the early seventies. The first time I heard of him was when Alfred told us in lecture that, to his surprise, Cunynghame was not Senior Moralist, but only second. Later on the then Master of St. John's told me how he often saw Alfred and Cunynghame sitting side by side on the steps of the New Buildings cloisters absorbed in economic discussion. After his degree he often came to visit us, and he always seemed to be boiling over with enthusiasm about Economics or any

[1] A. T. Lyttelton, afterwards Bishop of Southampton and Master of Selwyn, being Senior.

[2] Cunynghame records in his *Geometrical Political Economy*, p. 9, that "in 1870 Professor Marshall had shown to his students the demand and supply curves in a form very similar to those set out by Fleeming Jenkin," *i.e.* nine years before the *Pure Theory* was privately printed. Jenkin's papers were in 1870 and 1871, whilst Walras's first published work was in 1874.

[3] *Memorials of Alfred Marshall*, p. 45, where three letters from Marshall to Cunynghame are printed.

> other subject in which he happened to be interested, and his flow of talk was astonishing. I can perfectly recall him—rather broad and stout with a big and bullet-shaped head and a smiling rosy face beaming with good humour. He was thoroughly unconventional. I remember walking along the Backs with him one Sunday when he wore his top hat on the back of his head and smoked a pipe, a proceeding which in the eighties was hardly considered proper in Cambridge. During the seventies he invented a machine for Alfred which enabled him to draw a series of rectangular hyperbolas which he made great use of in his chapter on monopolies.

The machine, which Mrs. Marshall mentions, for drawing rectangular hyperbolas on the black-board, was famous thereafter to forty generations of undergraduates attending Marshall's lectures. It was communicated to the Cambridge Philosophical Society along with Marshall's first original contribution to economics (and his second appearance in print)—"Graphic representation by aid of a series of Hyperbolas of some Economic Problems having reference to Monopolies," *Proceedings of the Cambridge Philosophical Society*, Oct. 1873.[1]

After leaving Cambridge, Cunynghame's avocations were incredibly various. Having written a successful treatise on Patent Law, he slowly found his way from the Bar into the Civil Service, *viâ* a remarkable succession of secretaryships of Committees and Royal Commissions. One of his outstanding achievements was the foundation of the London Polytechnics as a result of his appointment in 1884 as Assistant Commissioner to distribute the funds of the City parochial charities. Another was his chairmanship of the Royal Commission on Coal Mines (1906), which resulted in the Coal Mines Act of 1911. *The Times* relates that :—

> The Commission was impressed with the ability, if it was sometimes bewildered by the vagaries, of its chairman, who toured Great Britain from end to end and went up and down every kind of mine, in every kind of queer clothes, testing for himself the varied conditions under which the miner works.

He was a Special Commissioner to inquire into the affairs of British Guiana in 1880, secretary to the Parnell Commission in

[1] Cf. Marshall's *Principles*, Preface to 1st edition, p. xi, footnote: "Mr. Henry Cunynghame, who was attending my lectures in 1873, seeing me annoyed by being unable to draw a series of rectangular hyperbolas, invented a beautiful and original machine for the purpose. It was shown at the Cambridge Philosophical Society in 1873; and, to explain its use, I read a paper, in which I described the theories of Multiple Positions of Equilibrium and of Monopoly Values very nearly as they are given below" (Book V, chs. v and viii).

1888, secretary to the Behring Sea Arbitration in 1892, secretary to Lord Bower's Committee on the Featherstone Riots in 1894, British representative on various foreign commissions in France and Germany, and a member of the Royal Commission on Accidents to Railway Servants (1899), of the Royal Commission on Food Supply in times of War (1903), and of numerous other Commissions. In 1894 Mr. Asquith appointed him Legal Assistant Under-Secretary at the Home Office, a post which he held for twenty years. The writer of *The Times* obituary has summed up his occupancy of this office as follows :—

> It may be doubted whether any important official position has ever been held by an odder or, in some ways, a more remarkable personality than Cunynghame. Of his cleverness there never could be any doubt, though the routine of a public department was hardly the best field for its display. There appeared to be no subject of which he had not at least a working knowledge, and certainly none of which he was not prepared to talk at large. He was a practical electrician, and at one time had been vice-president of the Institution of Electrical Engineers; in his house were installed a laboratory and workshop; and official interviews would be enlivened with disquisitions upon Hegelian philosophy and analogies drawn from the novels of Balzac (the plots of which he seemed to know by heart), the medieval Schoolmen, or indeed any other branch of literature or learning upon which his nimble intelligence had recently been engaged. The story goes that when "phossy-jaw," contracted in the manufacture of matches, was engaging the attention of the Home Office, Cunynghame announced that he had himself discovered and manufactured a non-phosphoric safety match. A meeting in the Home Secretary's room was accordingly arranged for the testing of this invention, but the future prospects of the Cunynghame match went up in the smoke of the explosion that ensued. On another occasion, when the prevention of miners' phthisis was the subject of inquiry by the Royal Commission on Mines, he astonished his colleagues by the production of a model man on a large scale which he had made in his own workshop, showing the working of the throat and lungs and how dust was absorbed into the system. These incidents are typical of this unconventional public servant, who, with his wide learning and practical knowledge of many departments of life, might, if he had concentrated more, have been one of the great departmental heads of his generation. As it was, his official career was less successful than that of many of his intellectual inferiors, and to his disappointment he was not made head of the Home Office when Sir Mackenzie Chalmers retired in 1908.

However this may be, such men as Cunynghame are the honour and glory of the British Civil Service.

It remains to add that, amongst his hobbies, he was a draughtsman, an enameller, an authority on clocks, and an Hegelian, being the author of *Art-Enamelling upon Metals, European Enamels, Etching by Electricity, Time and Clocks. Short Talks on Philosophy* and a book on electric lighting.

His contributions to economics of which I have found record are the following :—

(1) "A Machine for constructing a series of Rectangular Hyperbolas with the same Asymptotes,"[1] *Proceedings of Cambridge Philosophical Society*, Oct. 1873.

(2) Ten lectures at Toynbee Hall under the auspices of the London Society for the Extension of University Teaching on "The Political, Social and Industrial Condition in England," probably about 1883, of which there is a printed analysis, reprinted from *The Charity Organisation Reporter*, in a volume of pamphlets in the Marshall Library.

(3) "Some Improvements in Simple Geometrical Methods of Treating Exchange Value, Monopoly and Rent," ECONOMIC JOURNAL (1892), Vol. II, p. 35.

(4) "The Effect of Export and Import Duties on Price and Production Examined by the Graphic Method," ECONOMIC JOURNAL (1903), Vol. XIII, p. 313.

(5) *A Geometrical Political Economy, Being an Elementary Treatise on the Method of explaining some of the Theories of Pure Economic Science by means of Diagrams*, pp. 128, Oxford at the Clarendon Press, 1904.

(6) Presidential Address to the Economic Science and Statistical Section of the British Association, 1912, *Statistical Journal* (1912–13), Vol. LXXVI, p. 88.

An excellent course could be delivered to-day from the notes of the Toynbee Lectures of 1883, written by an economist who, as all economists should be, was also a moral scientist. Two prescient passages may be quoted :—

> Some persons seem fondly to imagine that by keeping a people ignorant they can avoid revolutions. The very reverse is really the case. . . . The lesson that the property and lives of the rich are at the disposal of the poor is one that requires no knowledge of letters to learn. In fact, the most ignorant populace acquires it the most easily; and the barbarity shown by the Russian peasant in removing the hated Jews from Russia augurs ill for the possessors of large estates and distant castles when the Russian peasant shall acquire his first notions of the "rights of man."

[1] Only the title is printed.

Again :—

> At present the socialism preached in England is very sorry stuff, resting, as I think, on prejudices and fallacies; but I will venture to predict that much more will yet be heard upon this subject in the years to come.
>
> Meantime, until these and other theories can be placed on a firmer footing, I would recommend their being treated as men of science treat hypotheses—to be received with doubt, and not acted upon.
>
> The task for us Englishmen of to-day is to do the work that lies to our hand; to educate the rising generation; to root out jobbery; to support justice with all our strength, and endeavour, in the wisest way we can, to relieve distress and improve the social and moral condition of our country. For clearer theoretical views on social subjects, I think it is safer to wait, nor mistake our farthing rushlight of opinion for the dawn of day.

The most important and original of his writings is the article published in the ECONOMIC JOURNAL in 1892, which should be of great interest to the historian of the development of graphical methods. The article is packed with matter. I select the following points for illustration :—

(1) Cunynghame begins by emphasising his preference for graphical over algebraic methods, on the ground that in economics we are not, as a rule, dealing with functional relationships, strictly speaking, in the sense that, if $f(x) = y$ is the Supply Function, there exists a function f which enables us to predict the shape of the curve throughout its length, but with a *de facto* statistical relationship. He argues that, if we use a graph, we are not so likely to overlook this fact as if we write down a bogus analytical function f. There is obviously great force in this, and it is worth calling to the attention of contemporary writers.

(2) He tries to grapple with the fact that the Demand Curve is not, in general, independent of the Supply Curve, by means of a device which he calls " successive utility curves," corresponding to different states of supply. This is an ingenious pioneer attempt at dealing with the essentially three-dimensional character of the phenomenon.

(3) Similarly he introduces the notion of " successive supply curves " to allow both for the fact of increasing cost in the short period and for the fact of decreasing cost in the long period. His treatment is partly confused, and not entirely satisfactory, but it is notable as an early attempt to explain the possibility of producer's surplus in what is commonly regarded as an industry

subject to increasing return. It is the earliest attempt to deal rigorously with the paradoxes of increasing return.

There is much else in the article which, like everything he wrote, is beautifully lucid and sometimes brilliant. The following passage may be quoted as an example of the play and fancy of his mind :—

> The accumulation of capital always ultimately adjusts itself to existing circumstances so long as it is permitted and the laws continue certain. The only way successfully to attack the accumulation of capital without resorting to communism, is either periodically to confiscate and redivide it at death or otherwise, or else at uncertain and unexpected times to confiscate the whole or a portion of it by law. The former of these methods is in use in France, the latter has been done with some effect by means of so-called witchcraft trials by the Zulus. For their theory is that no one who has abnormal wealth can have acquired it fairly. He is therefore executed, and his property transferred to the Crown. The success of such attempts, however, whether made by public democratic bodies, or by autocratic governments, depends upon inducing persons to sink their capital in fancied security, and then suddenly to seize it, using at one time the support of manufacturers against the landowners, and at another uniting the landed interest in an attack on capital sunk in industrial undertakings. This method if systematically pursued would probably ultimately place capital in the hands of financial syndicates, who, by the rapidity of their movements, would defeat and confound the slow operation of statutes and would render needful an occasional measure of wholesale confiscation, and perhaps of expulsion, as in the case of the Jews in Russia.

It is interesting to record that this article was visited with severe displeasure on the part of Marshall, as appears in an unpublished correspondence between Marshall and Edgeworth (March 26 and 28, 1892). The "successive utility curves" Marshall was prepared partially to accept and writes :—

> I should call them "temporary" demand curves, the term "temporary" being carefully distinguished from "short-period," a technical term used for a special purpose which is quite distinct from that which Cunynghame has in view. It is a free country. I deliberately decided that temporary demand curves (as contrasted with normal demand curves whose shape could be shifted if need be) would not be of any practical use, and that they would encumber the reader and divert his attention from more important things. I have discussed the notions which they represent.

(Here follow a number of references to the *Principles.*)

But the "successive cost curves" Marshall would not have at any price,—

I do not know what they are. I know others thought highly of them, and put in a note acknowledging them as fully as I could without committing myself to saying I understood them. . . . When I read his article I knew I did not understand them, and thought he did not. I then wrote to him, and I have now no doubt in my own mind that he does not. He is quick, but impetuous, and all through his life has constantly supposed himself to know what he means when he does not. You are graver in character, and write with more responsibility. I think therefore I am justified in asking you, before you lend your great authority in support of what I think a half-thought-out notion, to answer this simple question. Let $y = f(x)$ be the equation to one of Cunynghame's successive cost curves: what does the y mean, and what does the x mean? . . . I ask Cunynghame whether "Successive" means "short period" and he said, no! He says also that "Successive Cost" does not mean the same as my "particular expenses" (p. 483). But I fancy it must be akin to that, more or less.

Re-reading the article to-day, one feels that Cunynghame might have found it easier to make himself clear to Marshall if Marshall had explained in more explicit terms exactly what he meant by his "normal" supply curve. Essentially Cunynghame was trying to construct *more generalised* demand and supply curves which did not involve such limiting (and generally tacit) assumptions as those required by the curves in ordinary use.

The second of the JOURNAL articles (1903) is also worthy of reference. Here again his object is to escape from excessive simplification into a more generalised, and at the same time more realistic, handling. He propounds his back-to-back curves, as a means of escaping from the assumption of constant returns in the barter theory of foreign trade, and of providing for the fact that the costs of production in each country will depend on the revised scale of output brought about by import and export.

Cunynghame's *Geometrical Political Economy* does not add much original matter to these two articles. But it is an excellent little book.[1] I remember the delight with which I read it, the year after it was published, when I was just turning over to Economics from the Mathematical Tripos. In the minds of Marshall and Edgeworth it re-awoke the controversy of twelve years previously. Marshall's copy (now in the Marshall Library) is heavily annotated. With reference to the "successive curves" he notes: "Multiple curves *may* have their uses. But as I *never* use curves

[1] The Supply Curve for a Coal Mine (p. 70) for "a recently opened mine in Yorkshire," computed for the author by the manager, was doubtless a bye-product of his practical interest in this industry, though the Royal Commission came later.

for the costs of particular units, but only for (long or short period) *normal* demand and supply, he merely confuses students by implying that his reasonings have any connection with my curves." The book was elaborately reviewed by Edgeworth in the ECONOMIC JOURNAL (1905), Vol. XV, p. 62.[1] Edgeworth walks delicately in his superbest style, not altogether unsympathetic to Cunynghame, but (remembering the correspondence of 1892) carefully keeping out of any possible trouble with Marshall. Economists are a ticklish race, and, perhaps, there is something agreeable in recalling that this is nothing new.

J. M. KEYNES.

CURRENT TOPICS

WE record with deep regret the death of our President, Edwin Cannan. Notices of his life and influence are printed above over the names of Professor Bowley and Professor Robbins. It remains to testify here to the great debt which the Society owes to him, particularly for his services during the three years of his presidency. His addresses delivered at the annual meetings and reprinted in the JOURNAL will be fresh in the memory of members. His wisdom has been at hand to assist the Council, and more especially the executive officers, and has been of very great advantage to the Society.

The annual meeting for the current year was held on Thursday, May 23rd, when Professor W. R. Scott was elected President in succession to Edwin Cannan. Professor G. C. Allen and Professor Arnold Plant were also elected as new members of the Council. Before the formal proceedings, the President-Elect delivered an address on "The Discovery of the Manuscript of an early draft of part of *The Wealth of Nations*." This address will be printed in the JOURNAL for September.

The Secretary's report showed that, including receipts from compounders, there was a surplus of income over expenditure for the year amounting to £339. The number of Fellows and library members at December 31st amounted to 4,433, of whom 984 were compounders, as compared with 4,414 and 938 respectively at the end of the previous year. The number both of members and of compounders is now more than six times as great as before the War. The total circulation of the ECONOMIC JOURNAL is about 5,500.

[1] Reprinted in Edgeworth's *Papers*, Vol. III, p. 136.

Together with the notice of the Annual Meeting a circular has been forwarded to all members of the Society calling attention to additions to the list of publications which are available to members on special terms. Particular attention is called to the *Bibliography of Economics*, 1755–1775, prepared under the auspices of the British Academy by Mr. Henry Higgs, to the cost of which the Royal Economic Society has made a substantial contribution, and to Professor Heckscher's important work on *Mercantilism*. It is much to be hoped that both these volumes will be liberally supported by our members, being both of them large undertakings which must otherwise involve financial loss. Both volumes are indispensable to a well-equipped library of economics.

The 3rd General Assembly of the International Union for the Scientific Investigation of Population Problems will take place in Berlin on Monday, August 26th, 1935, in the rooms of the University. In connection with this Assembly, the German Committee, together with the "Deutsche Statistische Gesellschaft," the "Deutsche Gesellschaft für Rassenhygiene," and the "Deutsche Gesellschaft für öffentliche Hygiene," has arranged an International Congress for the Scientific Investigation of Population Problems, to take place in Berlin from August 26th to September 1st, 1935. Dr. Frick, Minister of the Interior for the Reich and Prussia, has been chosen as honorary president of the Congress. The acting chairman of the Congress will be the president of the German Committee of the International Union, Professor Dr. Eugen Fischer, director of the Kaiser-Wilhelm-Institute for Anthropology, Study of Human Heredity, and Eugenics, at present Rector of the University of Berlin.

It is stated that the Congress will be of a purely scientific character, political and religious propaganda, even if connected with the problems of population, being ruled out. The Congress will have the following sections :

1. Population statistics.
2. Biology and race hygiene.
3. Social, economical and psychological problems of population.
4. Medicine and hygiene.

Further information can be obtained from the office of the Congress, Einemstrasse 11, Berlin, W. 62.

The following have compounded for life membership of the Royal Economic Society :—

Dunton, F. D.
Groes, Ebbe
Haberler, Dr. G.
Hitch, C. J.
Jardine, F. J.
Jolly, J. H.
Mints, Prof. L. W.
Napier, G. H. C.
Nathan, Major H. L., M.P.
Nicholls, V. M.
Pahwa, S. S.
Plumptre, A. F. W.
Rogers, E.
Van Deurs, G. H.

The following have been admitted to membership of the Society :—

Apletree, R. A.
Ardery, J. B.
Artonne, André.
Banting, H. C.
Barreiro, Luis.
Bartesaghi, Dr. A.
Batten, H. A.
Best, P. A.
Bhumgara, M. S.
Black, H. K.
Bourton, F. E.
Brown, J.
Buch, C. A.
Butler, L. G.
Cairns, J. R.
Chance, C. F.
Chancellor, Prof. W. E.
Chee, C. K.
Chester, D. N.
Compton, H.
Crusha, E. H.
Cunningham, F.
Curtis, H. A.
Damelin, B.
Dand, T. R.
Deutsch, J. J.
Doblin, E.
Easter, J. Blair.
Eisler, Dr. R. I.
El-Hussayni, M. Y.
Galyer, R. F.
Garland, G. L.
Ghosh, B. B., Ph.D.
Gibson, W. J.
Gilpin, E.
Goldenberg, H. C.
Glik, Dr. Jona.
Griffith, N. M.
Harman, R. C.
Holt, W. B.
Horlick, Miss A. M.
Howes, H.
Hutchins, J. B.
Johnson, C. H.
Jones, Arnold.
Katiha, N. K.
Kellock, Prof. J.
Kelly, J. R.
Kewalramani, P. L.
Knight, J. S.
Lake, Prof. W. S.
Last, F. W. J.
Mayer, L. K.
Mehta, S. D.
Menzies-Kitchin, A. W.
Narasimham, B. T.
Nurmahomed, R. H.
Ooteghem, A. Van.
Parekh, M. R.
Philip, Rev. J. G.
Ramakrishnarao, V.
Ransom, C. F. G.
Rowney, R. L.
Reed, C. W. G.
Sapra, D. M.
Saul, F.
Sawwaf, H. A.
Senior, G.
Sethi, A. R.
Sethi, P. R.
Sheth, B. G.
Simpson, J. E.
Smithson, T. W.
Stacey, R.
Stein, S.
Syrett, W. W.
Thomas, W. S.
Trasy, G. S.
Uren, E. C.
Vallarino, J. C.
Walkden, J. W.
Walkley, G. S.
Wallace, T. J.
Wheeler, G. A.
Whyler, W. A.
Whyte, A. P.
Williams, J. A.
Wilson, G.
Wong, W. S
Wren, A. C.

The following have been admitted to Library membership of the Society :—

Akademijos Biblioteka, Dotnuva, Lithuania.
Commissioner of Migration and Statistics, Jerusalem.
Provincial Library of Chekiang, Hangchow.
Statistical Institute for Economic Research at the State University, Sofia.
Unione Fascista degli Industriali della Provincia di Milano.
University of Manitoba.
Universita di Perugia.

The Council of the Royal Statistical Society offer the Frances Wood Memorial Prize, value £30, for competition in 1935. The Prize is offered for the best investigation, on statistical lines, of any problem affecting the economic or social conditions of the people. Competitors will choose their own subjects, but it is believed that original observation or analysis made in the course of the writer's ordinary work or special research will afford useful material for papers, and some suggestions are contained in a leaflet which is available. Theses submitted or intended to be submitted as university exercises, and also published papers, are admissible. Essays (which must be either printed or typed, and accompanied by copies of all statistical tabulations) must be sent to the Honorary Secretaries of the *Royal Statistical Society, 9, Adelphi Terrace, W.C.2,* not later than October 31st, 1935.

Applications for the Jevons studentship in the Victoria University of Manchester, which should be sent to the Registrar not later than June 15th, are now invited for the year 1935. The value of the studentship will be £120 a year, and the holder will be expected to devote his time to the investigation of some economic problem connected with the industries of Lancashire. He will also be expected to enter into residence on the first day of the Michaelmas Term succeeding the award. Further particulars can be obtained on application to the Registrar, Manchester University.

The library of Professor Edgar Salin of Basle, comprising 3,500 books and 2,000 pamphlets on economics and allied topics, has been presented to New York University by Mr. Felix M. Warburg.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society.

PART I, 1935. *University Education: Its Recent History and Function.* PROF. GREENWOOD. *The New Board of Trade Wholesale Prices Index-Number.* H. W. M.

Economica.

FEBRUARY, 1935. *A Suggestion for Simplifying the Theory of Money.* J. R. HICKS. *Some Nineteenth-Century Irish Economists.* J. G. SMITH. *Market Imperfection and Excess Capacity.* N. KALDOR. *Japan's Balance of Trade.* R. S. SAYERS. *The British Exchange Equalisation Fund.* F. W. PAISH.

Review of Economic Studies.

FEBRUARY, 1935. *Federal Reserve Aid for Foreign Banks.* A. GOLDSTEIN. *The Consumption Function.* K. E. BOULDING. *The "Chicago Plan" of Banking Reform.* A. G. HART and C. H. WALKER. *Economic Theory and Socialist Economy.* M. DOBB and A. P. LERNER.

Transactions of the Manchester Statistical Society.

SESSION, 1933–34. *"Haigh Cannel."* EARL OF CRAWFORD AND BALCARRES. *The Paradox of Rationalisation.* M. J. BONN. *Some Economic Developments during the past Hundred Years and their Reactions upon the Cotton Trade.* W. CLARE-LEES.

World Survey.

APRIL, 1935. *World Unity and World Problems: a Statement of the Scope and Objectives of World Survey. Power—Mankind—Economics.* D. N. DUNLOP. *The Future Development of Power Producing Industries.* A. F. ENSTRÖM. *Machinery and Labour Displacement.* D. FERGUSON. *The Management of World Stocks.* W. J. STEIN. *World Economic Service: Belgium and the Gold Standard; World Rubber Situation; World Economic Indices. The International Aspect of Public Works.*

The Sociological Review.

APRIL, 1935. *Ability and Opportunity in English Education.* J. L. GREY and PEARL MOSHINSKY. *The Sociology Frontiers.* W. J. ROSE.

The Eugenics Review.

JANUARY, 1935. *Parentage of Defectives.* C. P. BLACKER. *The Problem of Maternal Mortality.* G. PITT-RIVERS. *Eugenic Legislation in Denmark.* H. O. WILDENSKOV. *Population Control in India.* C. DOVER.

APRIL, 1935. *Eugenics in the Light of Population Trends.* A. M. CARR-SAUNDERS. *Fitness for Marriage.* C. P. BLACKER.

International Labour Review.

JANUARY, 1935. *Trade Associations and Corporations in Italy after the Recent Reforms.* A. ANSELMI. *The Place of the Doctor in Factory Inspection.* DR. L. TELEKY.

FEBRUARY, 1935. *Is there a Relation between the Fall of the Birth-rate and Unemployment?* S. SOMOGYI. *Unemployment of Young People in Great Britain.* D. CHRISTIE TAIT. *Industrial Inspection in Austria, 1929–33. Progress of Women's Employment in U.S.S.R. Credit Unions in the United States.*

MARCH, 1935. *The Position and Problem of the Farm Worker in England and Wales.* PROF. A. W. ASHBY. *The Problem of Technological Unemployment in the United States.* I. H. FLAMM. *The Reorganisation of Social Insurance Institutions in the U.S.S.R.* A. ABRAMSON.

APRIL, 1935. *Unemployment among Women.* H. FUSS. *Economic Recovery and Labour Market Problems in Sweden: I.* BERTIL OHLIN. *Productive Occupation for Unemployed Young Workers in Poland.* S. ROSNER.

The Canadian Journal of Economics and Political Science.

FEBRUARY, 1935. *The Ricardian Theory of Production and Distribution.* F. H. KNIGHT. *What is Left of Adam Smith?* S. LEACOCK. *The Report of the Duff Commission.* J. L. MCDOUGALL.

The South African Journal of Economics.

MARCH, 1935. 150 *Years of Economic Contact between Black and White* (Part II). H. M. ROBERTSON. *Logical Issues in the Study of Industrial Legislation in the Union.* PROF. W. H. HUTT. *Credit Facilities on the Johannesburg Stock Exchange.* M. H. EMDON. *The Economic Status of the Cape Province Farm Native.* E. S. HAINES.

The Economic Record.

MARCH, 1935. *Supplement. Notes on Tariff Theory with special Reference to the Australian Tariff.* B. D. COPELAND. *Farm Production and the Depression.* L. F. GIBLIN. *The Significance* of Stable Prices in a Progressive Economy. A. G. B. FISHER. *Currency Devaluation, with special reference to Australia.* J. L. K. GIFFORD.

Quarterly Journal of Economics.

FEBRUARY, 1935. *The Problem of Monetary and Economic Stability.* CARL SYNDER. *The British Movement for Industrial Reconstruction and the Control of Competitive Activity.* A. F. LUCAS. *The American Labor Movement since the War.* D. J. SAPOSS. *Capital Concept applied to Man.* J. R. WALSH. *Professor Pigou's Theory of Unemployment.* S. E. HARISS.

The American Economic Review.

MARCH, 1935. *The Union in Industry: Theory of Collective Bargaining.* HARRY A. MILLS. *Aggregate Spending by Public Works.* J. CLARK. *The N.I.R.A. and Stabilisation.* O. NATHAN. *Rate of Return to Capital.* G. A. KLEENE.

The American Economic Review (Supplement)

MARCH, 1935. *Papers and Proceedings of the Forty-seventh Annual Meeting of the American Economic Association.* Chicago, December 1934.

Journal of Political Economy.

FEBRUARY, 1935. *Seasonal Cycles in Aggregates of Wheat Futures Contracts.* H. S. IRWIN. *Industrial Unionism.* D. J. SAPOSS. *The Trend of Savings, 1900–29.* CLARK WARBURTON.

APRIL, 1935. *The Monetary Aspects of the Walrasian System.* A. W. MARGET. *Unpublished Papers and Letters of Leon Walras.* W. JAFFÉ. *Individual Employer Reserves in Unemployment Insurance.* G. and E. WHEELER. *Taxation of Foreign and Domestic Goods in China.* A. C. MUHSE.

Annals of the American Academy of Political and Social Science.

MARCH, 1935. *The Shift in Economic Power.* R. G. SWING. *The New Deal and Economic Liberty.* A. A. BERLE, Jr. *The Federal Program for Economic Security.* C. A. KULP.

Social Research.

NOVEMBER, 1934. *Monetary Expansion and the Structure of Production.* HANS NEISSER. *Planning and the Market System.* E. HEIMANN. *The Effect of Competition on Price Changes in a Dynamic System.* W. LEDERER.

Review of Economic Statistics.

NOVEMBER, 1935. *Review of the Third Quarter of 1934.* J. B. HUBBARD. *Some Facts Bearing on the Silver Programme.* W. A. BERRIDGE. *Colbert and Governmental Control of Industry in Seventeenth-Century France.* A. P. USHER.

Wheat Studies (Stanford, California).

JANUARY, 1935. *World Wheat Survey and Outlook, January 1935.* A severe decline in Liverpool futures prices during August–December 1934 brought prices in January 1935 to a level not much above that of a year earlier. The decline was surprisingly large in view of the facts that the Wheat crop of 1934 still appears to be more than 300 million bushels smaller than that of 1933, and there is prospect of a reduction of surplus world stocks by some 315 million bushels during the present year. The decline is largely a reaction from the speculative flurry of last summer. Stocks by next August will probably be at their lowest level since 1928, but well above 1923–7. The United States will probably occupy the unaccustomed position of a wheat net-importing country during 1934–5. Canadian stocks are likely to remain farther above the pre-depression level than those of any other important area.

FEBRUARY, 1935. *Starch and Flour Quality.* Existing information bearing on the influence of starch on baking value has been collected, gaps in knowledge pointed out, and some of the problems awaiting solution presented.

MARCH, 1935. *Per Capita Wheat Consumption in Western Europe. I. Measurement from 1885–6.* This study represents an effort to estimate the quantities of wheat devoted respectively to food consumption, feed consumption, and seed use in thirteen Western

European countries, in terms of annual averages applicable to successive five-year periods beginning with 1885–6. The evidence shows that food consumption of wheat is a very different concept from total consumption or utilisation of wheat. Non-food uses have greatly expanded since 1913 in some but not in all countries. The estimates suggest that the long-term tendency is rather towards a balance between wheat and rye consumption than towards the displacement of rye by wheat.

Econometrica.

JANUARY, 1933. *The Common Sense of Econometrics.* J. SCHUMPETER. *Utilisation des équations fonctionelles et des nombres complexes dans les récherches économiques.* J. TINBERGEN. *The Absorption of Bank Credit.* J. H. ROGERS.

APRIL, 1933. *Annual Survey of Business Cycle Theory : Investment and Saving in Business Cycle Theory.* A. H. HANSEN and H. TOUT. *Distributions statistiques rattachées à la loi de Gauss et la répartition des revenus.* G. DARMOIS. *Some Considerations on the Analysis of the Prices of Competing or Substitute Commodities.* M. EZEKIEL. *On the Demand for Rival Commodities.* U. RICCI.

JULY, 1933. *Annual Survey of Statistical Technique : Developments in Sampling Theory.* W. A. SHEWHART. *The Notions of Horizon and Expectancy in Dynamic Economics.* J. TINBERGEN. *A Comparison of Elasticities of Demand obtained by Different Methods.* HENRY SCHULTZ. *Can Stock Market Forecasters Forecast?* A. COWLES.

OCTOBER, 1933. *The Debt-Deflation Theory of Great Depressions.* IRVING FISHER. *The Action of Economic Forces in producing Frequency Distribution of Income, Prices, and other Phenomena : a Suggestion for Study.* A. L. BOWLEY. *Effects of a Technological Improvement on Employment.* D. I. VINOGRADOFF.

JANUARY, 1934. *Annual Survey of Significant Developments in General Economic Theory.* J. TINBERGEN. *Maximum Production studied in a Simplified Economic System.* G. C. EVANS. *Demand Functions and Utility Functions : a Critical Examination of their Meaning.* E. H. PHELPS BROWN. *Theoretical Studies of Demand.* C. F. ROOS.

APRIL, 1934. *Significant Developments in Business Cycle Theory.* F. VINCI. *Demand Studies during Times of Rapid Economic Change.* E. J. WORKING. *Capital and Industrial Fluctuations.* F. v. HAYEK. *Interdependence of Cyclical and Seasonal Variation.* J. WISNIEWSKI.

JULY, 1934. *Développements récents de la technique statistiques.* G. DARMOIS. *A Critical Examination of Professor Pigou's Method of deriving Demand Elasticity.* R. D. G. ALLEN. *Circulation Planning : Proposal for a National Organisation of a Commodity and Service Exchange.* RAGNAR FRISCH.

OCTOBER, 1934. *Address of the Econometric Society to the University of Lausanne. On Equations of Motion of Business Activity.* F. CREEDY. *Three Concepts of Wage Quotas and their Statistical Determination.* O. BAKKER. *Price Analysis : Selected References on the Theoretical Aspects of Supply and Demand Curves and Related Subjects.* L. O. BERCAW.

JANUARY, 1935. *Annual Survey of Economic Theory: The Theory of Monopoly.* J. R. HICKS. *Economic Theory of the Shorter Work Week.* CHARLES F. ROOS. *Competition under Secret and Open Prices.* S. N. WHITNEY. *Demand Functions with Limited Budgets.* H. HOTELLING.

APRIL, 1935. *Stable Prices v. Stable Exchanges.* C. REINOLD NOYES. *The Maximum Value of Urban Land converted to Diverse Uses.* H. A. BABCOCK. *The Period of Production under Continuous Input and Point Output in an Unprogressive Community.* C. H. P. GIFFORD. *Dynamics of Saving and Investment.* E. THEISS.

Revue d'Économie Politique.

JANUARY–FEBRUARY, 1935. *La Réforme économique aux États-Unis.* W. OUALID. *La production et le pouvoir d'achat dans le cycle économique.* RENE COURTIN. *Un cas concret d'économie pré-walrasienne: le douar Aghbal.* G.-H. BOUSQUET. *Le rôle économique de l'État et la réforme de la comptabilité publique.* H. DEVILLEZ.

Journal des Économistes.

JANUARY–FEBRUARY, 1935. *La Banque de France et la situation économique et mondiale.* E. PAYEN. *Dettes interalliées et réparations.* M. CARSOW. *Les Vues des Présidents des Grandes Banques anglaises.* E. P. *La Nouvelle émission de Bons du Trésor.* X. *Le Libre-Échange, janvier–février 1935.* B. D. L. L. E.

MARCH–APRIL, 1935. *La Crise belge.* E. PAYEN. *La Situation de l'Industrie houillère française.* E. R. *La Suisse à la croisée des chemins.* E. P.

Bulletin de l'Institut des Sciences Économiques.

FEBRUARY, 1935. *La Belgique en 1934: Les Finances privees en 1934.* F. BAUDHUIN. *Les Finances publiques en 1934.* C. ROGER. *Les Transports en 1934.* A. DELMER. *L'Agriculture Belge en 1934.* R. KINGET. *Le Commerce exterieur de la Belgique en 1934.* P. VAN DER REST. *Les Industries diverses en 1934.* H. VAN CRIEKINGE.

Weltwirtschaftliches Archiv.

MARCH, 1935. *Zusammenarbeit zwischen Ost- und Westeuropa auf neuer Grundlage.* M. MANOILESCO. The international division of labour is really the exploitation of agricultural Eastern Europe by industrial Western Europe. The product of one industrial worker exchanged for the product of ten peasants. This system is breaking down, and a new one built upon economic equality of all peoples must be substituted for it. Western European countries must renounce their monopoly profits, lower the prices of their products and take an active part in the development of Eastern agriculture. The author advises to give preferential treatment to Eastern products, and to help Eastern countries by sending experts and financing public works, chiefly roads. *Die neue Aussenhandelspolitik des französischen Imperiums.* B. ISCHBOLDIN. Though some progress has been made in building up a self-sufficient French Empire there remains the difficulty that the colonies expand their output of food-stuff and wine

where they compete with French producers while the chief raw materials have to be imported from foreign countries. *Zur Theorie der mengenmässigen Einfuhrregulierung.* K. Häfner. *Goldwährung und Wirtschaftsordnung.* F. Lutz. The smooth working of the gold standard presupposes the renunciation of an autonomous trade cycle policy of protectionism, adjustable prices and a state of confidence. The gold standard is appropriate to a liberal capitalistic economy but not to one which is regulated on a national basis.

Jahrbücher für Nationalökonomie und Statistik.

February, 1935. *Unternehmergewinn und Kapitalprofit als einheitliches Einkommen.* P. Quante. Profit and interest are both derived from the differential advantages of a big capital at the disposal of an entrepreneur of great ability as against a " medium-sized " capital in the hands of a man of " middle-class " ability. *Ernst Abbe und die Gegenwart.* T. Pütz. Abbe, who transformed the Zeiss works into an institution run in the interest of the public and of the workers, is shown as an anticipator of the economic policy based on the social community of interest. *Die Entwicklung der deutschen Sozialversicherung seit dem Jahr* 1933. H. Mönch.

March, 1935. *Das Massengesetz der Versicherung.* W. Mahr. After a short description of the function and structure of the insurance business the author shows that the practices followed in calculating actuaried values are in accordance with the law of large numbers. *Die Grundaufgaben des Staates in der Regelung des Arbeitseinsatzes.* O. Schmid-Burgk. A complete reversal of the State policy with regard to labour is demanded. While taking over vocational guidance and the distribution of labour between different regions and trades, the state should not concern itself with the maintenance of the unemployed (except in extreme cases), but leave it either to individual firms or to special regional or professional bodies. *Die Grundrente im Dienste landwirtschaftlicher Marktregelung.* H. Bonus. It is proposed that the agricultural regulation organisation (*Reichsnährstand*) should use its buying monopoly to eliminate location rents either by offering a price varying inversely with the transport cost to be incurred or by offering a single price while undertaking all transport at its own expense.

April, 1935. *Die monetären Konjunkturerklärungen und die Erfahrungen der letzten Krise.* Dr. J. Dobretsberger. A criticism of monetary theory of the trade cycle, in particular of Fisher's equation and of the Wicksell-Hayek theory of the equilibrium rate of interest. It is argued that both credit inflation and discount policy are ineffective weapons, because their effects depend upon the state of trade. The cause of trade cycle is seen in time-lags in the payment for different productive contributions and in the expenditure of incomes. *Statistik als Mittel zur Ursachenerforschung wirtschaftlicher Erscheinungen.* F. Huhle. As long as the use of statistical methods is restricted to a comparison of fictitious average values it will not enlarge our knowledge of causal relations; there is need for a detailed realistic analysis of the statistical material. *Das deutsche Genossenschaftswesen in den*

Jahren 1933–34. F. HELPENSTEIN. The article contains a detailed statistical account of the development of the German co-operative movement during 1933 and 1934. *Die Bekämpfung der Krise in den Vereinigten Staaten.* W. WALTER. A short chronological review of the New Deal legislation.

Schmollers Jahrbuch.

DECEMBER, 1934. *Der Nationalsozialismus und die Wissenschaft der Wirtschaftslehre.* H. FRANK. A lecture given by the German Commissar for Justice reviewing the outlook for academic teaching of economics under National-Socialist rule. *Zur Grundlegung der Wirtschaftstheorie als Wirklichkeitswissenschaft.* B. ISCHBOLDIN. The author divides the statistical school of economic science (as represented by Simiand, H. L. Moore, and Mitchell) into a descriptive (idiographic) branch denying the existence of economic laws and a theoretical (nomographic) branch employing statistics as a method of discovering empirical laws of economic interaction. Only the latter branch has developed a value theory resting upon the notion of mathematical probability. Both are contrasted with the "understanding" method of Sombart and criticised. *Das Bevölkerungsproblem und die geschichtliche Entwicklung von der Urzeit bis zum Mittelalter.* J. HASHAGEN. The author considers over-population as a necessary condition for the development of civilisation. *Die Verbindung von Landwirtschaft und Gewerbe in Württemberg, verglichen mit Niedersachsen und anderen Teilen des Reiches.* G. STOCKMANN. *Seelgrupplehre, Gesinnschaftlehre und Verbindunglehre.* H. L. STOLTENBERG. The author proposes a new classification of sociology as a science dealing with the behaviour of human groups. *Theoretische Grundlagen der Preisbildungsforschung und Preispolitik.* E. SCHNEIDER. A review of the book of Mackenroth. Objections to marginal technique, marginal productivity theory, and the Marshallian method of partial equilibrium are rejected and it is shown that conjectural and institutional factors are not neglected.

Archiv für mathematische Wirtschafts- und Sozialforschung.

VOL. I. NO. I. (1935). *Aufgaben und Grenzen der mathematischen Nationalökonomie.* H. PETER. The use of mathematical reasoning and symbols in economic science is defended. Objections arising out of the social character and discontinuity of economic facts are rejected. Mathematical analysis is even more important in a planned economy but its applicability will always be limited, since economists should also be concerned with single individuals. *Gibt es eine Sachversicherungsmathematik?* P. RIEBESELL. *Arbeitszeit und Produktion.* E. SCHNEIDER. The article deals with the effects of variations of hours of labour on the costs of an individual firm on the assumption that there are only two homogeneous "substitutional" factors of production (men and machinery). Then, dealing with returns per hour of labour we can conceive of time as a third factor of production. *Über die Schnelligkeit der Rassenvermischung.* H. MÜNZNER. *Mathematische Probleme in der Verkehrsstatistik.* H. KELLERER. It is shown with many examples that the application of simple mathematical methods to traffic statistics yields useful and interesting results.

Zeitschrift für Nationalökonomie.

MARCH, 1935. *Betrachtungen über das Dumping.* A. CABIATI. The author discusses the nature of dumping and argues that protective duties cannot prevent it. The difficulties of dumping and of effective anti-dumping legislation are examined. *Bemerkungen über Nutzen und Kosten.* F. H. KNIGHT. An historical essay to be followed by a constructive part. Starting from certain propositions as to the economic conduct of an individual and the different principles according to which means of production and money incomes are allocated to different uses, the theories of utility, costs, disutility, and rent are reviewed, in particular the contributions of Smith, Ricardo, Mill, and Jevons. *Zum Problem des "neutralen" Geldes.* A. BILIMOVIČ. The notion of neutral money as put forward by Koopmans is analysed and schematic examples are constructed to demonstrate the inconsistency of Koopmans' criteria and the ambiguity of a neutral money policy. *Industrielle Standortsfragen.* F. ALT. After an exposition of the shortcomings in Alfred Weber's approach, equations describing price, sales, and location of monopolistic enterprises under different conditions are worked out.

De Economist.

OCTOBER, 1934. *Het dualisme in de economische en monetapolitiek ire van Nederland.* H. M. H. A. VAN DER VALK. A criticism of the recent economic and financial policy of the Dutch Government. A truly effective economic policy may produce its results only in the long period : there is a danger in the demand for short-range measures. The economic condition of Holland is bad, as seen in employment, exports, cost of living and burden of debt. "The present governmental policy is to reduce the level of costs, but the measures so far taken have in various cases an opposite character." The article discusses the professed objects of policy : its consequences on protected, unprotected and semi-protected industries, the method whereby government has attempted to influence prices, the difficulties of a harmonious deflation policy, whereby prices and costs fall equally. The Government has shown no definite system or policy. Planning, *laissez-faire*, mitigated liberalism and state intervention are all present. The Government has been unable to restore elasticity into the economic life of the nation. *Grensnut en conjunctuur, II.* M. A. LIGTERINK. A continuation of the previous argument, discussing the situation in a money economy, and the part played by money in the Trade Cycle. Emphasises the desirability of increasing taxation in good years and diminishing it in bad years, and considers "methods of tempering the Trade Cycle, of keeping it within the limits in which it is economically useful." *De Poolsche Corridor.* F. A. G. KEESING. A summary of the arguments bearing on the Polish Corridor.

NOVEMBER, 1934. *Enkele indices aangaande de technische ontwikkeling langs nieuwe wegen in de voornaamste industrieele landen, I.* L. HAMBURGER. "Factors of technical development" may be of various kinds. Enlargement may come about through (i) increase in the number of productive units ; (ii) improved organisation ; (iii) inventions. Statistics are deficient as to the third

of these. The essay provides an attempt to cover this by reference to numbers of patents issued in various countries. The article deals with Great Britain, France, Holland, Germany and the United States of America. *De Positie der overheid ten opzichte van land- en water-wegen.* W. J. DE GRAAF. Transport (i) is a link in the process of production; (ii) must be regarded as on the same footing as any other technical process to which material is subjected; (iii) increases the value of goods. A means of transport can never be of economic advantage to a community if it does not cover its own costs. A subsidy to transport prevents the most just division of labour. A discussion of the principles which determine how costs of transport should be borne.

DECEMBER, 1934. *Berekening van den omvang der werkloosheid als gevolg van prijsdaling in een gesloten economisch milieu.* J. GOUDRIAAN. Say's Théories des débouchés: "Les produits s'achètent avec des produits," appears to be contradicted by depressions. Treated with reverence in the text-books, it is respected and believed by no one in practice. It should, however, be formulated not as a dogma which states that "Universal over-production is impossible," but as a conditional statement: Provided, and in so far as, households (economic units) endeavour to sell as much as they buy, general over-production is impossible. A detailed discussion of the circumstances under which this condition is not satisfied. *Enkele indices aangaande de technische ontwikkeling langs nieuwe wegen in de voornaamste landen, II.* L. HAMBURGER. A continuation of the study of "technical development" as reflected in the number of patents issued. "Patent figures" are compared with other economic magnitudes, real incomes from wages and the increase of monetary gold in the world. There is a far-reaching parallelism in England (and the U.S.A.) between the course of the total number of patents annually granted and a composite index-number standing for the population multiplied by the representative level of real wages.

JANUARY, 1935. *De aanpassing gedurende de crisis van de loonen en de kosten van levensonderhoud aan de groothandelsprijzen in de Oost-Aziatische landen.* D. J. HULSHOFF POL. A discussion of the variation of wages in relation to the cost of living and wholesale prices in Eastern Asiatic countries. As in an article on an allied subject in the June 1934 number, the discussion follows (i) a country which has maintained the gold standard (Dutch East Indies) and (ii) countries which, originally on the gold standard, have now "devalued." The position in Dutch India is considered. *Amerikaansche crediet-maatregeln.* C. WESTRATE. A discussion of certain aspects of American legislation during the crisis.

Giornale degli Economisti.

FEBRUARY, 1935. *Francesco Ferrara e David Ricardo.* R. FUBINI. An analysis of the main points of difference and similarity between the economic doctrines of Ferrara and Ricardo. *Linee die studio dell' economia corporativa.* E. FOSSATI. *Le eccezioni ricardiano-marxiste al principio del costo. E dal valore alla corporazione.* G. MAJORANA. *L'opera scientifica di Albert Hensel.* B. GRIZIOTTI.

La Riforma Sociale.

SEPTEMBER–OCTOBER, 1934. *Il disordine economico e il "gold standard." Dodici anni di esperienza americana.* A. CABIATI. An analysis of the working of the American monetary system during the twelve years 1921 to 1933 shows that the collapse of 1933 was not due to defects of the Federal Reserve System or to mismanagement on the part of those controlling it, but to the financial and economic consequences of the war, from which America vainly endeavoured to withdraw herself. *Il prezzo dell' energia elettrica.* PROFESSOR L. EINAUDI, replying to certain views recently put forward by one of the heads of the electrical industry in Italy, Signor Motta, urges that the criterion to be used in determining the "just price" of electricity should have regard to the cost of reproduction, or replacement cost, and not to the cost of production of plant as a whole now in existence. *La misura delle variazioni delle tariffe doganali.* F. A. RÉPACI. An elaboration of a new technical method for ascertaining and measuring changes in the level of customs duties. *Il* NEW DEAL *roosveltiano: gli effetti.* V. RACCA. A description, by one who has studied American conditions on the spot, of the recent economic legislation of Mr. Roosevelt's administration. The writer is very pessimistic as to the effects, now and in the future, of these measures.

NOVEMBER–DECEMBER, 1934. *L'industria elettrica ed i suoi prezzi.* G. MOTTA *e* L. EINAUDI. A reply by Signor Motta to Professor Einaudi's article in the previous number of the *Giornale*, together with a rejoinder by Professor Einaudi. *Trieste e l'economia danubiana.* An article setting out the results of a recent investigation by PROFESSOR A. CABIATI as to the economic situation of the port of Trieste and its relations with the Danubian hinterland. *Categorie astratte e scataloni pseudo economici.* PROFESSOR EINAUDI makes use of the form of a dialogue between peasants, economists and others to elucidate a number of disputed problems of agriculture in Italy. *La tragedia della seta.* E. GIRETTI. A well-documented account of the disastrous decline in the Italian export trade in silk consequent on the increase of tariffs, the decline of silk consumption in the United States, the expansion of rayon, and the competition of Japan.

JANUARY–FEBRUARY, 1935. *Di altri scataloni pseudo-commerciali e pseudo-bancari.* PROFESSOR EINAUDI again uses the form of a dialogue to present his ideas on the rationalisation of the distributive trades and on the organisation of banking. *L'industria elettrica e i suoi prezzi.* R. CATANI. *Il "gold standard," la "moneta neutrale" e i due gruppi monetari.* A. CABIATI. A criticism of a recent article by Professor Cassel in the January number of the Review of the *Skandinaviska Kreditaktiebolaget*, in which he contended that the whole group of gold standard currencies was seriously overvalued in relation to the sterling bloc, and advocated either the complete abandonment of the gold standard or the appropriate devaluation of the gold currencies in terms of gold. Professor Cabiati gives reasons for believing that the extent of the overvaluation is not large, *e.g.* in the case of the franc, and that it might be adjusted in the near future, given favourable conditions, without overmuch difficulty. *Il controllo dei cambi.* M. MAZZUCCHELLI. *Gli impianti idroelletrici e l'imposta di ricchezza mobile.*

V. S. MAUGANO. *Guadagnano di più le grandi, le medie o le piccole intraprese?—Studio sui bilanci delle società italiane per azioni nel periodo* 1927–1931. L. LENTI. If the balance sheets of Italian joint stock companies are divided into small, medium small, medium large, and large, an analysis over a five-year period shows that the highest profits were made by the medium large group of companies. *La lunga crisi del* 1874–1896 *e la crisi odierna.* E. CIANCI. The writer makes a comparison, supported by some interesting statistical tables, of the present depression and fall in prices, with the period from 1874 to 1896. He concludes that there has been a secular tendency to falling prices since the end of the War, on which has been superimposed the cyclical depression starting in 1929. *Sul risparmio assicurativo.* A. SCARAMELLI. *Il delitto di usura—Nota economico—giuridico.* E. FLORIAN.

Index (Stockholm).

DECEMBER, 1934. *Economic Survey. The British Trade Intelligence System.* W. J. GLENNY.

FEBRUARY, 1935. *World Trade in Fetters: A summary survey of developments in certain countries* 1929–1934.

MARCH, 1935. *Economic Survey. Expansionist Technique in the United States.*

APRIL, 1935. *Artificial Control Schemes and the World's Staples.* J. W. F. ROWE.

NEW BOOKS

British.

BAILEY (S. H.). Mr. Roosevelt's Experiments. The Hogarth Press. 7¼″. Pp. 48. 1*s*. 6*d*. (paper).

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BHARGAVA (B.). Indigenous Banking in Ancient and Medieval India. Bombay: D. B. Taraporevala. 9″. Pp. vii + 310. *Rs*. 10.

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The Future of Monetary Policy. A Report on International Monetary Problems by a Group of the Royal Institute of International Affairs. Oxford University Press. 9½". Pp. 219. 10*s.* 6*d.*

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Economic Essays. In Honor of Wesley Clair Mitchell. New York: Columbia University Press. 9¼″. Pp. 519. 18*s*. 6*d*.

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Chronologie Économique Internationale 1934. Paris: Recueil Sirey. 9¾″. Pp. 280.

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v. ZWIEDINECK-SUDENHORST (O.) und ALBRECHT (G.). Jahrbücher für Nationalökonomie und Statistik, Band 141. Heft 4. April 1935. Jena: Gustav Fischer. 9¾". Pp. 127.

Austrian.

STARK (W.). Ursprung uns Aufstieg des Landwirtschaftlichen Grossbetriebs in den Böhmischen Ländern. Vienna: Rudolf Rohrer. 9½". Pp. 84. *M.* 3.50 (paper).

Italian.

D'ALBERGO (E.). Nuovi Studi sull' Ammortamento del Debito Pubblico. Città di Castello. 10". Pp. 113.

FABBRINI (L.). Dollaro e Sterlina. Firenze: Casa Editrice Poligrafica Universitaria. 10". Pp. 202. 20 *l.*

FERRARA (F.). Lezioni di Economia Politica. 2 vols. Bologna: Nicola Zanichelli. 8½". Pp. 803 and 793. 40 *l.* (each vol.).

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Institut International d'Agriculture. Annuaire International de Législation Agricole. XXIIIème Année—1933. Rome: Villa Umberto. 9½″. Pp. lxx + 1259. 75 *l.*

Lolini (E.). Dall' Economia Classista all' Economia Corporativa. Roma: Società degli Autori ed Editori di Roma. 10″. Pp. xxi + 395. 20 *l.*

Loria (A.). Dinamica Economica. Studio sulle Leggi delle Variazioni. Torina: Unione Tipografico. 9½″. Pp. 359.

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United Kingdom.

List of Commercial Treaties with Foreign Powers. January 1st, 1935. H.M. Stationery Office. 9½″. Pp. 51. 9*d.* (paper).

Final Report on the Fourth Census of Production (1930). Part IV. The Timber Trades, the Clay, Building Materials and Building Trades, Miscellaneous Trades, Mines and Quarries, Public Utility Services, and Government Departments.

British Empire.

Review of the Trade of India in 1933 34. Delhi: Manager of Publications. 9½″. Pp. xxiv + 323. 4*s.* 6*d.*

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THE MANUSCRIPT OF AN EARLY DRAFT OF PART OF *THE WEALTH OF NATIONS*[1]

It gives me very great pleasure to announce to the Society a discovery of the greatest possible interest to students of Economics. It is the finding of a very early draft of what became afterwards *The Wealth of Nations*. The general character of it may be best explained by certain circumstances connected with the manuscript. As a part of a plan to obtain more information about Adam Smith, I obtained permission from the Duke of Buccleuch to examine any manuscripts at Dalkeith House which were likely to be useful. Amongst these were the papers of Charles Townshend, who was the second husband of the Countess of Dalkeith, to whose son, Henry the third Duke of Buccleuch, Adam Smith was tutor from 1764 to 1766. These papers have been kept together in a separate collection. The relative failure of my original objective was compensated for many times by the finding of a fairly thick folded folio manuscript which had very close affinities both with the *Glasgow Lectures* and *The Wealth of Nations*. It is written on stout handmade paper, consisting of twelve double folio sheets, making forty-eight pages in all. Each double folio sheet is marked with a number—N 1, N 2 up to N 12—in Adam Smith's writing. As was the case with his other works,[2] it is in the hand of an amanuensis, similar to that of one of the Glasgow College scribes, as can be seen by a comparison of the script with that of some of

[1] An Address delivered before the Annual Meeting of the Royal Economic Society, May 23, 1935.

[2] The statement of McCulloch that the manuscript of *The Theory of Moral Sentiments* was in Adam Smith's own writing and the reason he gives for it is one of those ridiculous sayings—the result of excessive acuteness—which only a person usually intelligent succeeds in perpetrating. Allowing for the character of booksellers' catalogues, it is likely that the cutting from a Caxton Head Catalogue, sent to Dr. Bonar by Mr. Henry Higgs (*Library of Adam Smith*, 1932, p. 204), describing a manuscript "Meditations on Seneca's Epistles," may be of the same character as the document now described, namely, in the hand of an amanuensis, with possible additions by Adam Smith himself.

the University records of the period. There are a number of corrections and additions made by Adam Smith in his own hand. At the foot of each page there is a catchword; and, since there is one of these on p. 48, it is evident that there had been originally more, perhaps considerably more, of the manuscript. The existing portion consists of 12,113 words.

The form of the manuscript is connected with the engagement of Adam Smith as travelling tutor to the Duke of Buccleuch. It will be remembered that Rae records how Hume wrote to Adam Smith on April 12, 1759, that Charles Townshend had said to Oswald that "he would put the Duke of Buccleuch under the care of the author of *The Theory of Moral Sentiments*," at the same time warning Smith of the instability of many of Townshend's projects, as to which Rae has several amusing anecdotes to relate.[1]

It seems that Adam Smith always had a hankering after a tutorship. It was to this end that he gave much of his energy after he returned from Oxford, and it was one of the objects he had before him in arranging for his lectures in Edinburgh from 1748 to 1751. A new fact sheds some light on this fixed purpose. It turns out that Adam Smith had a relative, probably a cousin, William Smith, who was a tutor and curator according to Scots law, or, in other words, a trustee, for Adam Smith's half-brother Hugh. This William Smith had been governor to Lord Charles Hay, afterwards Earl of Errol; and, on the termination of his engagement, was nominated as a Regent of Marischal University,[2] Aberdeen. No doubt in Adam Smith's youth this was impressed on him as an example to follow and the early impression remained, even though the main purpose, namely, the procuring of promotion, had disappeared in his own case. Accordingly, it is easy to understand that Adam Smith was careful to keep himself before Townshend. The latter had visited Smith in Glasgow and Smith had been to Dalkeith, but still the appointment was not made. It is likely that, in order to maintain himself in Townshend's mind, Adam Smith had this manuscript prepared; or, alternatively, it may have arisen from something that was said at one of the meetings of the two. In view of the fact that he himself stated in July 1764 that he had begun to write a book at Toulouse,[3] the possibility that this was a draft sent to Townshend from France is not to be

[1] *Life of Adam Smith*, pp. 141–48.
[2] At this time Marischal and King's were separate Universities.
[3] Rae, *Life of Adam Smith*, p. 179.

wholly excluded. However, for the present, since the finding of the manuscript is so recent and there has not been time to examine several problems connected with it, I do not wish to commit myself as to date, though there seem to be strong reasons against it having been sent from France. In any case the relation with Townshend determined the form of this draft.

It will be remembered that the *Glasgow Lectures* consist as to more than one-half of a treatment of Jurisprudence. It is the remainder, named " Police," which constituted the economic portion of these lectures. In the manuscript there is a new and most significant departure. It is definitely intended to be an economic treatise and nothing else. The first words on p. 1 are sufficiently arresting. They are " Chapter 2, The Nature and Causes of Public Opulence." Here the keynote of the later book is struck with no uncertain touch. The subject-matter is Division of Labour. Evidently at this time Adam Smith had in view a general introductory chapter, corresponding to the Introduction of *The Wealth of Nations*, and the beginning of the manuscript consists of material corresponding to Chapters 1 and 2 of the completed book. The unwritten first chapter of the manuscript would have, no doubt, repeated Sections 1 and 2 of " Police " in the *Glasgow Lectures*, namely, " the natural wants of mankind " and " the arts subservient to these." Then comes the existing Chapter 2, which takes in §§ 3–6, *i.e.* " Opulence arising from Division of Labour," which multiplies the product, what occasions it, and that it must be proportioned to the extent of the market.

After this point the remaining chapters are in skeleton form. Though thus less full than the *Lectures*, they are of the greatest interest as showing how close and integrated the argument is—an impression which is in fact lost in *The Wealth of Nations*, through the additional matter subsequently inserted. Chapter 3 is entitled " Of the Rule of Exchanging or of the Circumstances which regulate the Price of Commodities ; " Chapter 4, " Of Money, its Nature, Origin and History considered, first as the measure of Value, and secondly as the instrument of Commerce ; " Chapter 5, " Concerning the Slow Progress of Opulence." The manuscript ends in the middle of the criticism of the prohibition of the exportation of corn at the point where Cicero quotes " Old Cato." [1]

[1] It is perhaps of interest to mention that in the *Lectures*, p. 229, the passage is referred to ; in *The Wealth of Nations*, I. p. 151, it is translated. Here it is given in the original and the reference is correct, being Bk. II of *De Officiis*, not Bk. III as in *The Wealth of Nations*.

Professor Cannan has a note at the end of the second Chapter of *The Wealth of Nations* that "the concluding paragraph was probably taken bodily from the manuscript of the author's lectures." Now that we have these, or a revision of them, it is possible to say that not only this paragraph but the rest, after the beginning of Chapter 1, is taken practically word for word from this manuscript. What I mean to imply by "practically" is, subject to the alterations which one makes in the revision of something written previously. These revisions are fewer than one would expect. They consist (1) of matters of style; (2) of change of adjectives, involving a change of meaning, sometimes reducing the emphasis of the *Lectures*, occasionally adding to it; (3) additions to the *Lectures* by the insertion of a sentence or two, and—what comes rather as a surprise—a much greater reduction, for purposes of condensation, usually by cutting out a quite considerable part of a paragraph. The portion of the manuscript consisting of Chapter 2 (corresponding to Chapters 1 and 2 of *The Wealth of Nations*) comprises twelve long paragraphs, amounting to over 7,800 words. A great part of Chapters 1 and 2 of *The Wealth of Nations* is made up of repetitions of the manuscript which amount to close on 3,500 words, in the sense of being quoted textually subject to verbal alterations. Some of these are of interest. The relation of the invention of window glass to "the making of these northern parts of the world habitable" has an addition, the cancellations of which may be a loss to *The Wealth of Nations*, namely, "without which these northern parts of the world would scarce have been habitable, at least by that effeminate and delicate race of mortals who dwell in them at present." The African king, "the absolute master of the lives and liberties of ten thousand naked savages," appears in the manuscript as "an Indian prince, the chief of a savage nation in North America," which presents a complete picture. At a later stage, during the fighting in the American colonies, the "naked savages" (or some of them) became "noble allies," and it was necessary or politic to substitute "the African king," who is, artistically, less satisfying.

Besides a number of cuts in the manuscript for purposes of condensations the reason the word for word transfer to *The Wealth of Nations* is not higher, coming very close to the whole of these two chapters, is that I have excluded the opening of the first Chapter of the manuscript, though, all through, it is very near to *The Wealth of Nations* in its phraseology. That is the part relating to pin-making and amounting to about two pages in

Cannan's edition. This is involved in the considerations of another interesting question, namely, how far the reporter of the *Lectures* has given a correct and adequate summary of what he had heard. We have now the opportunity to check this report with the original or something very close to it. In view of the fact that the portion, which is given in full in the manuscript, is barely one-eleventh of the economic part of the *Lectures*, this is obviously a matter of considerable importance. Subject to one important reservation, the reporter was quite exceptionally competent. He had the rare faculty of understanding Adam Smith's argument, restating it in a much briefer form, while retaining the main line of thought, and at the same time incorporating in his summary a number of the more picturesque and striking phrases. The condensation is greater than one would have expected. He reduces by as much as 70 per cent. More precisely he represents Adam Smith by 29·9 per cent. of the number of words in the manuscript. The reduction is by no means equally distributed. The short paragraph on the three advantages of the Division of Labour is nearly as full as the manuscript—the report containing as much as 70 per cent. of the number of words in the latter.

It is to be expected that an average contraction of 70 per cent. would result in the omission of nearly all Adam Smith's finer points and most of his qualifications. A closer inspection reveals the fact that the average is by no means representative. The condensation is very unequal. It is easy to understand that the copious illustration of the manuscript is capable of much abbreviation, and Adam Smith himself applied the pruning knife when moving these passages to *The Wealth of Nations*. But there is more in the situation than this. Comparing the *Lectures* and the manuscript, it is most remarkable to find that, when questions relating to Distribution are touched on, they are abbreviated almost to the point of disappearance, sometimes they find no place in the summary. Omitting incidental references, topics connected with Distribution amount to over one-third of Chapter 2 of the manuscript—that is, 1,891 words out of 5,441—the reporter represents these by only 322 words, or 17 per cent. against a general average of 30 per cent. Since he is accurate elsewhere, this suggests the problem whether the lectures he heard contained much less on this subject than is to be found in the manuscript. This is a question which I hope to discuss in the edition of the manuscript which I am preparing.

This brings us back to the paragraphs on pin-making, and at the same time affords a better idea of the plan Adam Smith had in mind than is to be found in the *Lectures*. He begins with the advantages of the common day labourer, thus his proem in the *Lectures* and the manuscript becomes the peroration in *The Wealth of Nations*. Arising out of this he finds himself faced with the problem how this can be so when the poor provide both for themselves and for the enormous luxury of their superiors. From their produce comes the landlord's rent, the interest of the monied man; and "the indolent and frivolous retainers of a Court" are supported by the labour of those who pay taxes. Reviewing the various claims on the produce of a great society, the poor labourer seems to bear on his shoulders the whole fabric of the building—how then, he asks, "shall we account for the superior affluence and abundance commonly possessed even by this lowest and most despised member of civilised society, compared with what the most respected and active savage can attain to"? The answer is, of course, the principle of Division of Labour. What is of much interest is that the analysis of pin-making is treated, not only from the Productive, but also from the Distributive point of view. As specialisation increases profits emerge, and, at each stage, the wage of the worker increases. As the illustration is developed further it is significant to observe that Adam Smith has the conception of real wages, imagining the pin-maker paying so many pins for the wire he uses and for the loan of the tools.[1] On this basis he finds it a mark of an opulent, commercial society that "labour becomes dear and work cheap." This is worked out with an amount of elaboration and detail that is very scantily represented in the *Lectures*. In particular, he has a distinct conception of National Wealth, which looks somewhat disguised as "National Opulence," and is treated in the stimulating manner "as that of the whole people diffused universally through all the members of the society." In the remainder of Chapter 2 of the manuscript there are occasional references to Distributive problems, as, for instance, when *The Wealth of Nations* has "that universal opulence which extends itself to the lowest ranks of the people," the manuscript reads after "opulence" "notwithstanding the inequality of property."

The same subject is continued in Chapter 3 of the manuscript,

[1] The manuscript reads, "the case here is the same as if he gave five hundred pins to his master for affording him the wire, the tools and the employment." The implication of the last three words is not clear.

which, unfortunately, is represented only by a summary. The first section deals with wages under three heads: (1) "what is sufficient to maintain the labourer, (2) to indemnify him for his education in that particular business, (3) to compensate him for the risk he may run, either of not living long enough to receive this indemnification, or of not succeeding in the trade let him live ever so long." This is reproduced in the *Lectures*.[1] Then there follow discussions on the price of country labour, that of handicraft work, of the ingenious arts and of the liberal professions. In the fourth section of this chapter, "national or public opulence" is said to consist in the cheapness of commodities in proportion to wages, and therefore "whatever tends to raise their price above what is precisely necessary to encourage the labourer tends to diminish national or public opulence." Chapter 5 is an early form of Adam Smith's attack on the Mercantile System. The first head begins with the great importance of Agriculture, which is of interest from the references to the stock of farmers, but the summary does not show how the resulting distributive questions are developed.

This treatment of Distribution in the manuscript is of immense interest. Professor Cannan in his Introduction to the *Lectures* says "there is no trace whatever in them of the scheme of Distribution which *The Wealth of Nations* sets forth," and again, "the dissertations on the division of labour, money, prices and the cause of the differences of wages in different employments, evidently existed very nearly in their present form before Adam Smith went to France, and the scheme of distribution, on the other hand, was wholly absent. It is plain that Adam Smith acquired the idea of the necessity of a scheme of distribution from the Physiocrats, and that he tacked his own scheme (very different from theirs) on to his already existing theory of prices."[2] If "trace" in the first sentence be taken in the sense in which it is used in chemical analysis, I cordially agree with Professor Cannan, with the necessary limitation that the quotation applies to the *Glasgow Lectures*.

The finding of this manuscript may involve some reconsideration of the reference in the last sentence to the influence of the Physiocrats. There has not been time to pronounce on the rather involved questions which emerge; but, since these can only be investigated gradually, an incomplete and tentative statement of what a preliminary view suggests may be pardoned, all the more since I am proposing to include

[1] P. 176.

[2] Pp. xxviii, xxxi.

an edition of this manuscript in a book on parts of Adam Smith's life which is unlikely to be issued earlier than the year after next.

The manuscript has considerably more concerning Distribution than the *Lectures* suggest. It is remarkable as containing passages including just those points which Professor Cannan signalises as being wanting in the *Lectures* and which he considered Adam Smith learned from the Physiocrats, namely, stock or capital, productive and unproductive expenses and the conception of a National Dividend.[1] In the second paragraph of the manuscript a vivid and even highly coloured picture is painted of the labourer and the peasant on the one hand, and on the other the slothful landlord supporting his vanity by the rent he receives, "the monied man indulging himself in every sort of ignoble sensuality at the expense of the merchant and the tradesman to whom he lends out his stock at interest," and, finally, "all the indolent and frivolous retainers of a Court." As has been seen, Adam Smith had already the conception of something closely corresponding to a real National Dividend, which he describes as divided amongst various classes of persons. He imagines a great society, illustrated by one of 100,000 persons, and again simplified by the favourite example of pin-making as carried on by undifferentiated labour and by labour in various degrees of specialisation. The resulting Distribution is worked out both in money and in kind. In each example the master of the work receives so much for materials, for tools and for his own profits. To this skeleton exposition Adam Smith adds in his own hand, "I do not mean that the profits are divided in fact precisely in the above manner, but that they may be divided in such manner."

It seems, then, that in this manuscript we have a document which, in this as in other respects, is different from the report of the lectures. It may be, the person who took the notes omitted these particular passages, but he is found to be exceptionally reliable elsewhere. There are characteristics which indicate that this manuscript was dictated by Adam Smith and not copied from an existing set of his lectures. The summary of the later chapters would require to be prepared for this special occasion. These are some erasures in the manuscript where it has been overwritten either by the amanuensis or by Adam Smith himself. These are of the type which would be unlikely in a copy from a document, but to be expected in something dictated.

[1] *Lectures*, pp. xxviii, xxix.

For instance, there is a case of "overrunning," where a new paragraph should have been begun; two lines are erased and the new paragraph started in the proper place. There are a few instances of words likely to be misheard or mis-spelt in dictation, but which should have been written correctly from a copy, *e.g.* coarse, earned and plough.

Since at the time of writing it is less than three weeks from the finding of this document, I wish to speak with all reserve as to its date. Without committing myself in any way, there are some matters of much interest which enter into the problem of fixing a date, and the omission of which would render this preliminary account very incomplete. The extreme limits are from about April 1759, when Hume wrote on the 12th that Charles Townshend, after reading *The Theory of Moral Sentiments*, wished Adam Smith to take the Duke of Buccleuch to France,[1] and 4th September, 1767, when Townshend died. Thus it is possible that it could have been written after Adam Smith had been in close contact with the Physiocrats at Paris. At first sight this possibility seems to become highly probable when it is noticed that, when in Chapter 5 he comes to summarise different types of cultivation of land, he has a heading "Of the Cultivation by the ancient Métayers or Tenants by Steel bow," adding in the margin (by the hand of the amanuensis), "the first of these expressions is French, the second Scotch. . . . I know no English word for it at present." It might be natural to infer that such a passage was written after he had seen, or heard of *Métayage* in France. But it so happens that there were several books in the Glasgow University Library from which he could have obtained full particulars, amongst them the first seven volumes of the *Encyclopédie* which he had ordered for the Library before 1760, the sixth volume of which contains the article by Quesnay on "Fermiers" in which the Métayer is described.[2] Judging by

[1] Rae, *Life of Adam Smith*, p. 144.

[2] Adam Smith wrote a letter to the *Edinburgh Review* in 1755 commending the *Encyclopédie*, the first volume of which had appeared in 1751 (Bonar *Library of Adam Smith*, 1932, pp. 3, 4). This account may have been taken from D'Alembert's "Discourse Préliminaire," from an analysis in a review, from a copy at the Advocates' Library, Edinburgh, or he may have purchased some of the volumes for himself. In any case, the reference above shows that he was interested in the actual book and had access to it before he set out for France. It is curious that though there were French books on various economic subjects in the Glasgow University Library during Adam Smith's time, the *Catalogue* of 1791 does not contain the name of any Physiocrat.

In relation to the parallels between R. Cantillon and the *Glasgow Lectures*, it may have been that, at this time, Adam Smith had not acquired the copy of

the corresponding passage in *The Wealth of Nations*, Adam Smith did not wholly agree with Quesnay on the nature and results of this kind of tenure.

At the other extreme in favour of an early date is one interpretation of a sentence which occurs at the beginning of the summary of Chapter 4, where Adam Smith, speaking of the nature of money, writes, "I have very little to say that is new or particular; except a general history of the coins of France, England and Scotland." Does this refer to material which he had collected but which was not yet written up? And the summary of the third and succeeding chapters might be adduced to support that view. Against this it has to be remembered that after 1759 or 1760 there was some kind of manuscript of the *Lectures*, and therefore he may have meant "when the book I am writing, based on the material I have, comes to be printed it will be found there is nothing very new on this head."

Another fragment of evidence is somewhat curious. Adam Smith once said he was a beau in his books—it might be added that he was a positive dandy in his writing-paper. It was not only that he used the best, but he had a special quality supplied in double folio sheets to the Government offices. He used this freely. Judging by his later letters, when he was at the Custom House in Edinburgh, he divided the double folio into halves, then doubled one into four pages, making his letter-paper quarto size. In the muniments of Glasgow University there are a number of specimens with his writing on them—some used as outer covers for documents. There were several issues of this paper either successively or simultaneously for the use of different offices. On the left-hand half-sheet there was a watermark consisting of a double circle, containing a laurel wreath encircling G R, crowned. This mark is $1\frac{3}{4}$ in. in diameter. On the other half-sheet the watermark was larger and varied according to the issue. One type had the ribbon of the garter, with the motto, enclosing the Royal Arms.

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the *Essai* which is recorded as being in his Library. If this were so, the University Library Catalogue of 1791 records:

M. Postlethwaite, *Plan of the Universal Dictionary of Trade and Commerce*, Lond. 1749. This at the period 1751–63 was in the possession of Smith's colleague, Simson, the mathematician, and it came to the Library after his death. Since both men lived near each other in the College and were friends, Adam Smith could easily have borrowed it from Simson.

M. Postlethwaite, *The Universal Dictionary of Trade and Commerce*, Lond. 1757.

J. Savary, *Le Parfait Négociant*, 2 vols., 4°, Amst. 1726.

The two last were recommended by Adam Smith.

This one was about 3½ in. high. Another was a fine flight of fancy and capable of various interpretations. There was an elliptical picket fence upon which Britannia seems to sit, but probably she is really on a throne: she holds a trident (on the end of which is what appears to be the cap of Liberty), which protects a lion rampant, crowned. The motto is "pro Patria." The fighting forces could think of the sea-girt isle, the Foreign Office of the balance of power, and the Customs of the duties they administered. Nowadays, if this mark were used, the fence would need to be increased to a wall and Britannia would either be lost or her seat would have to be raised. This measures about 3½ in. by 4 in. A third, 4 in. high by 3 in. wide, consists of the garter ribbon crowned, containing the motto "Pro Patria eiusque Libertate," and within is a crowned lion, regardant, grasping a trident. Now all the sheets of the manuscript bear the last watermark, *i.e.* the small G R to the left, and the crowned lion, regardant, within the crowned ribbon. It follows that this manuscript must have been written when paper of this type was available. Adam Smith had it before the earliest possible date. Therefore the manuscript could have been written any time between 1759 and the end of 1763. The entourage of the Duke of Buccleuch travelled with a considerable amount of impedimenta. Accordingly, if Adam Smith attached special importance to his supply of manuscript paper, there is no reason why he should not have brought some with him. We know, too, that he wrote to Hume from Toulouse on July 5, 1764, that he "had begun to write a book in order to pass away the time." [1] There are three letters, extant, written from Toulouse, but they are on a totally different paper, thinner, and without watermark. Then we come to the Paris visit, represented by the letter to Hume, dated July 6, 1766, and relating to the quarrel between Hume and Rousseau. This is on paper of the type Adam Smith favoured, but the watermark does not appear to be British. It has a ducal crown with what seems to be either a flag or a double four on a mound with the inscription VAN DER LE . . . . From November 1766 till May 1767 Adam Smith was in London. A complicated set of circumstances, not yet described, would have enabled him to get plenty of official paper. Curiously enough those circumstances would have prevented or made it unnecessary for him to write this particular manuscript. There is only one letter in this short period. It is now in America and, except by chance, is too small to show a watermark. In any case, as it

[1] Rae, *Life of Adam Smith*, p. 179.

happens, the official paper to which he could have had access was of a different watermark from that used for this manuscript.[1]

Without risking a premature and ill-founded opinion, it would be unwise to carry the matter further at present. The apology for venturing to offer incomplete evidence to the Society is that this course gives the earliest opportunity for others to consider the interesting problems which this manuscript presents.

W. R. SCOTT

[1] While the watermark on the right-hand half-sheet is the same, or similar to that on the manuscript, that of the other half-sheet is quite different. It is also G R but without the laurel wreath, crown and circle and the letters are of a different size and shape.

BRITAIN'S OVERSEA INVESTMENTS IN 1933 AND 1934

THE following survey of Britain's Oversea Investments is the seventh of a series of annual studies on this subject made possible by the courtesy of the Banks and Issuing Houses in London and of a large number of companies, both at home and abroad, whose continued assistance in furnishing me with the relevant data I am again happy to acknowledge.

Former articles contain a detailed explanation of the method used in these researches and the limitations unavoidably imposed upon them by the difficulties of tracing the ownership of bearer securities, nominee holdings, etc.[1] As on earlier occasions, it has been found convenient to classify securities into three broad groups as follows :—

(1) All bonds and stocks of Dominion, Colonial and Foreign Governments, States and Municipalities, interest on which is payable in London.

(2) All bonds and shares of registered British companies operating entirely or mainly abroad.

(3) All bonds and shares of Dominion, Colonial and Foreign companies registered and operating abroad, quoted and/or dealt in on the Stock Exchanges of the United Kingdom.

In order to cover the field as far as possible, a rough estimate is also included of that part of Britain's oversea investments less readily subject to accurate assessment, viz. foreign securities held in the U.K. but not dealt in regularly in British markets; other private investments such as property, mortgages, etc. abroad; and the oversea assets of British companies whose main activities are in the United Kingdom.

The estimated aggregates of British capital invested abroad are expressed in terms of nominal values, a procedure which, although possessing certain drawbacks, is superior to, and more convenient for purposes of calculation than, the alternative methods of adopting market values or original costs.[2]

[1] See ECONOMIC JOURNAL, September 1931 and June 1932.

[2] Market values, for example, are subject to substantial and abrupt fluctuations as a result of changing economic conditions and their use would destroy the continuity essential to a series of investigations of this nature. Calculations

On the other hand, comparison of the yearly totals of the nominal amount of British Oversea Investments for the purpose of arriving at an estimate of net long-term capital movements is vitiated by fortuitous changes arising from writing-down of capital, bonus issues, conversion, etc. Consequently, except for estimates of sinking fund and maturity repayments, no elaborate attempt is made to relate the difference between the totals of successive years to the changes on capital account.

The detailed results given below relate to the year 1933 and estimates shown for 1934 are merely forecasts subject to revision. Before passing on to these results, however, a short summary of the principal economic changes that affected Britain's Oversea Investments, and more particularly the income derived from them, may be helpful.

Despite the signs of economic recovery already visible in the summer of 1932, earnings and wholesale prices reached their lowest levels in that year and in the first quarter of 1933. At the close of 1932 South Africa abandoned the Gold Standard and attached its currency to sterling. This enabled gold-mining companies to reap larger profits in terms of South African currency which were partly counter-balanced by the Excess Profits Duties imposed by the South African Government. Moreover, owing to the depreciation in South African currency brought about by its link with sterling, dividends in terms of sterling were not as yet substantially higher. The early months of 1933 witnessed the development of the banking crisis in the United States accompanied by a renewed sharp fall in wholesale prices which spread to all the principal countries and was responsible for a further contraction in foreign earnings. At the same time investment trusts and other institutions interested in dollar securities disposed of part of their holdings. Abandonment of the Gold Standard by the United States in April 1933 and the ensuing depreciation of the dollar entailed a reduction in the sterling income derived from investments in dollar bonds. For a time the depreciation of the

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in terms of original costs would suffer a serious disadvantage in that, aside from the labour involved in the employment of this method, changes in the price level would invalidate comparison from year to year.

Inasmuch as the main emphasis in this study is on the income derived from British Oversea Investments, the employment of nominal values has the advantage that in the vast majority of cases the rate of interest and dividend is expressed in terms of the £1 share or £100 bond as the "unit of account," so that calculation of income is thereby greatly facilitated. At the same time the totals arrived at do to some extent reflect the original cost of these investments, since in most cases the issue price of debentures or shares does not greatly differ from the face value.

dollar proceeded simultaneously with a boom in American stock and commodity markets, with the result that commodity prices rose faster than the dollar depreciated. Not only was there a sharp upturn in prices in the sterling area, but even gold prices were favourably affected, the wholesale price index in France rising from 383 in May to 401 in July. The resulting improvement in earnings, however, did not persist and with the collapse of the boom in America a severe deflationary influence, arising from the gold policy of the United States in the autumn, made itself felt, particularly outside the sterling area. Meanwhile, interest on bonds was adversely affected by the German moratorium in June 1933, while increasing exchange restrictions throughout the world not only hampered remittances to this country but, together with the multiplication of tariffs and quotas, contributed actively to a further reduction in world trade. In the sterling countries, owing to the partial adjustment affected in the relation between costs and prices, trade and industry displayed a strong resistance to the deflationary factors referred to above, and on balance British investments in the Dominions yielded as large an income in 1933 as in 1932. Successful conversions and fiscal improvement raised the market value of the bonds of Dominion Governments, while interest remitted to London underwent no reduction on account of these conversions until the following year. Moreover, in addition to the handsome profits that were being made by gold mines in South Africa, the successful operation of restriction schemes in tea and tin were beginning to be reflected in an improvement in earnings of companies engaged in their production.

Group I.

Dominion, Colonial and Foreign (Government and Municipal) Loans.

Reference has been made in previous articles to the detailed method by which the proportion held abroad of the outstanding sterling loans of Empire and Foreign Governments and Municipalities has been computed.[1] It is worth repeating that these foreign holdings are roughly indicated by the amount of interest paid in London free of income tax.

Sterling *tranches* placed abroad are also included in the total of loans to which the above percentages apply, so that the proportion held abroad as appearing from the above table is somewhat higher than the corresponding percentage which would apply if loans issued in London were exclusively considered. Nevertheless,

[1] See Economic Journal, June 1930.

TABLE I.[1]

United Kingdom and Foreign Holdings of Dominion, Colonial and Foreign (Government and Municipal) Loans.

	United Kingdom.	Foreign.
Dominion and Provincial Governments	90·4%	9·6%
Dominion and Colonial Municipalities	88·6	11·4
Foreign Governments	56·3	43·7
Foreign Municipalities	74·6	25·4

it remains true that the amount of these loans held abroad has for some years been very substantial and is continuing to increase owing to the stimulus given to repatriation by the low quotations for a large number of these foreign bonds.[2]

TABLE II.

British Capital (nominal) invested in Dominion, Colonial and Foreign Government and Municipal Loans; Income derived and Sums repaid.

(£000.)

	1933.			1932.		
	Capital.	Income.	Repayment.	Capital.	Income.	Repayment.
Dominion and Colonial Governments	1,061,262	45,137	37,122	1,025,408	44,997	23,740
Dominion and Colonial Municipalities	85,828	4,001	1,490	83,531	3,922	3,061
Foreign Governments	298,840	10,762	10,209	289,375	11,984	12,032
Foreign Municipalities	33,666	1,226	571	33,585	1,474	853
Total	1,479,596	61,126	49,392	1,431,899	62,377	39,686

Despite repayments amounting to nearly £50 million, there was an increase of £48 million in the nominal amount of British capital invested in the above loans, of which £38 million represented an increase in Empire Loans and the balance in those of foreign

[1] The figures in this table are, in fact, the proportions of interest paid in London under tax deduction and free of tax, respectively, in 1933. A number of loans are payable at the option of the holder in centres abroad as well as in London, and while this affects only slightly the total amount of interest paid in London to British holders, fortuitous variations do occur in the total amount and consequently the percentage of interest paid in London to foreign holders. Exchange rates and currency uncertainties naturally play a part in affecting these percentages.

[2] The fact that over 10 per cent. of the loans of Dominion and Colonial Governments and Municipalities is held abroad may also seem surprising. This, however, is largely explained by the substantial investment in these loans by Dominion Government and local authorities of the sinking funds held against internal and other loans.

countries. The increase in foreign loans may seem surprising in view of the substantial repayment and having regard to the virtual ban on new foreign issues. The explanation lies in the fact that the new foreign loans consisted mainly of issues for the funding of unpaid interest and frozen balances of which the outstanding example was the Argentine Government 4 per cent. loan for £13½ million, issued in exchange for balances awaiting remittance to the United Kingdom in accordance with the terms of the Anglo-Argentine Trade Convention of May 1933. New cash actually subscribed to foreign loans amounted only to £5 million, as compared with repayments of nearly £11 million. The Dominion Governments in 1933 took advantage of their improved financial status to follow Britain's example of the previous year by undertaking conversion and refunding operations not only of their internal debt but also in the London market. Consequently, the new issue market for Dominion loans was very active during the year. New issues in this market totalled £116 million, of which £79 million was subscribed for cash, the balance representing conversion. The increase by £38 million in 1933 in the amount of British capital invested in Dominion loans is therefore accounted for by the difference between the new issues for cash and the loans repaid.[1] The persistent decline in the proportion of foreign to Empire loans held by British investors is illustrated by the following table.

TABLE III.

British Investment in Empire and Foreign Loans (Government and Municipal).

(£000,000.)

End of	Empire Loans.	Foreign Loans.	Total.	Ratio of Foreign to Empire Loans.
1928 . .	1,036	364	1,490	26·0%
1929 . .	1,061	351	1,412	27·9
1930 . .	1,080	357	1,437	24·9
1931 . .	1,104	337	1,441	23·4
1932 . .	1,109	323	1,432	22·6
1933 . .	1,147	333	1,480	22·5

The virtual cessation of foreign long-term lending, except for isolated cases of loans made with the consent of the Treasury, to certain countries in the sterling area, is reflected in the

[1] Repayments in Table II include not only the sums remitted to London in respect of sinking fund drawings and purchases, but also the sums raised in London to repay existing loans. In fact the larger part of the £79 million of cash subscriptions to new issues was employed for such repayments.

above figures. Statistics compiled by the Midland Bank show that while cash subscribed in London on behalf of Governments, Municipalities and private undertakings declined in the case of the Dominions from £424 million in the six year period 1922–7 to £306 million for 1928–33, the amount for foreign countries declined from £311 million to £154 million for the comparative periods. It is perhaps no coincidence that the pronounced preference shown for Empire investments has been accompanied in recent years by a similar striking re-orientation in Britain's oversea trade, the share of trade with the sterling area having increased noticeably at the expense of trade with other foreign countries. It is not, of course, suggested that the decline in Britain's long-term investments in foreign countries has actively influenced oversea trade in this direction. The Ottawa Agreements, the subsequent Trade Agreements with other countries in the sterling area and the high industrial costs prevailing in Gold Bloc countries were obviously the more relevant factors in this connection, while at the same time the Treasury ban on foreign issues would in any case have prevented any substantial flotation of new foreign loans on the London market.[1] From the point of view of the investor the significance of increased trade with the group of sterling countries, reinforced by the stimulus given to gold production, lies in the fact that remittances between its constituents are facilitated, and the scope for investment in these countries increased. The next few years may, therefore, witness a marked accentuation of the preference shown by U.K. investors towards investment in the Empire. This conclusion is arrived at independently of a consideration of the Trustee Acts, which for many years have been largely responsible for the growth—not always prudent—of Dominion borrowing in London.

Turning now to a consideration of income derived from investments in Dominion, Colonial and Foreign Government and Municipal bonds, the following figures show the trend since 1928.

The remarkable stability of this income in spite of widespread default on foreign bonds is, of course, due to the preponderance of investments in Empire loans. Thus the decline of £6 million in income from foreign loans between 1928 and 1933 due to default and to a reduction in the total outstanding was counterbalanced by an increase during this period of over £5 million in the income from Colonial loans as a result of new Dominion loans issued in

[1] Even in the absence of the Treasury ban it is very doubtful if new foreign loans could have been successfully raised on any important scale during recent years.

London. During 1933, as a result of the German moratorium, other suspension of payments, notably by South American States and Municipalities, and intensification of restrictions in exchange, income from foreign bonds declined by nearly £1½ million from the previous year.

TABLE IV.

Income obtained from U.K. Investments in Empire and Foreign Loans (Government and Municipal).

(£000.)

	Empire Loans.	Foreign Loans.	Total.
1928	43,820	18,076	61,896
1929	46,416	18,245	64,661
1930	46,878	17,798	64,676
1931	48,405	17,515	65,920
1932	48,919	13,458	62,377
1933	49,138	11,988	61,126

A preliminary examination of remittances in 1934 indicates that on balance income from foreign bonds was maintained. Cash payments in respect of German bonds were lower and isolated instances of new defaults were recorded, but these losses were counterbalanced by the partial resumption of interest payments, the case of Brazil being worthy of mention. The total amount of interest lost to British investors in respect of foreign Government and Municipal bonds since the end of 1930, when default became noticeable, until the end of 1934 is estimated at £16 million. Referring to Table II it may be observed that the average rate of interest obtained on Colonial Government and Municipal loans was still over 4¼ per cent. in 1933. Conversions both in that year and in 1934 have slightly reduced the average rate paid on these loans in 1934, but on the other hand interest on new loans has balanced this loss. Given a continuance of cheap money in the United Kingdom and of economic and financial recovery in the Dominions, a gradual reduction in the rate of interest through conversion and refunding operations may be anticipated.

The income obtained from investment in Dominion, Colonial and foreign Government and Municipal bonds is provisionally estimated at £61·0 million for 1934.

GROUP II.

British Companies operating Abroad.

The historical origin of the British company operating abroad is closely associated with some of the earliest pioneer work in the

development of overseas territories by British enterprise. Perhaps the most outstanding example of the fruits of this pioneer work is to be found in the network of important British railways in South America, and more especially the Argentine, in which a considerable amount of British capital is invested. Despite the long history of these companies the foreign participation in the share and loan capital has been and remains very small, in fact seldom exceeding 2 per cent., except in the case of certain public utilities in South America, notably Tramways and Telephones, in which controlling interests have been acquired by United States companies. The chief reason for this small foreign participation is, of course, the high rate of British income tax, which is a strong deterrent to would-be foreign purchasers of these stocks and bonds. Consequently, except for the automatic reduction in loan capital due to sinking fund and maturity repayments, and some alteration in nominal values due to capital reorganisation, the nominal amount of British capital invested in these companies has remained exceedingly stable from year to year. Indeed, of recent years this characteristic has been even more marked owing to the absence of new issues on any important scale and the partial interruption of sinking fund repayments due to exchange restrictions over a wide area. The next table records the amount invested in various enterprises and the income obtained from these investments.[1]

The only notable change in 1933 in the share capital held by British investors occurred in the case of Mines, the nominal amount of capital having risen by £8 million, partly as a result of new issues for cash and partly owing to an issue of shares in exchange for the sterling debentures of a foreign railway company.[2]

Income figures in Table V represent the dividends and interest actually paid to U.K. investors before deduction of income tax. The total of this income in any year may differ considerably from the gross receipts accruing to the United Kingdom in respect of the operations of British companies

[1] This table includes the capital of all British registered companies whose plant and equipment are entirely or mainly situated abroad. A number of companies, however, particularly among those classified as "Commercial and Industrial," do extensive business both at home and abroad and possess important fixed assets in the United Kingdom and overseas. The larger companies of this nature have been covered by these investigations, but no attempt has been made to estimate in detail the foreign assets of minor companies. For details of the method used in arriving at the above figures the reader is referred to previous articles (see ECONOMIC JOURNAL, September 1931).

[2] Apart from repayments almost all other changes are ascribable to capital reconstruction or issues in exchange for unpaid interest, the amount of new capital raised in cash during the year having been negligible.

abroad during the year. The latter include remittances for head office expenditure and remuneration of directors resident in London, as well as sums invested in the U.K. as an addition to

TABLE V.

U.K. Capital invested in British Companies operating Abroad; Interest and Dividends received and Loan Capital Repaid.

(£000.)

	Share Capital.		Loan Capital.		
	Amount.	Dividends.	Amount.	Interest.	Repayment.[1]
			1932.		
Dominion and Colonial Rails	1,600	—	27,300	1,415	40
Indian Rails	20,900	1,572	43,200	1,581	—
India Railway Annuities	—	—	24,300	1,138	1,290
American Rails	800	44	800	32	—
Foreign Rails	221,200	2,220	173,100	4,769	225
Banks	26,300	2,122	—	—	—
Breweries	4,700	377	600	38	270
Canals and Docks	1,400	—	2,300	145	—
Commercial and Industrial	65,600	2,154	19,800	545	761
Electric Light and Power	7,900	572	6,600	295	265
Financial Land and Investment	86,000	1,534	26,900	1,056	433
Gas	11,700	1,263	1,300	89	341
Iron, Coal and Steel	7,600	136	2,100	62	—
Mines	72,500	2,292	7,300	534	59
Nitrates	3,400	—	1,700	—	—
Oil	108,600	10,170	12,400	618	501
Rubber	81,300	200	5,600	140	54
Shipping	12,100	457	6,000	213	330
Tea and Coffee	38,600	1,226	2,600	107	26
Telegraphs	23,900	1,744	4,300	181	7
Tramways	15,500	337	18,500	425	148
Waterworks	4,600	309	1,900	101	17
Total	816,200	29,029	388,600	13,484	4,776
			1933.		
Dominion and Colonial Rails	1,600	—	27,100	822	919
Indian Rails	20,900	1,800	44,400	1,625	—
Indian Railway Annuities	—	—	23,100	1,225	1,203
American Rails	800	42	800	32	—
Foreign Rails	221,200	1,619	175,200	4,406	65
Banks	26,300	2,080	—	—	—
Breweries	4,700	396	800	34	—
Canals and Docks	1,400	—	2,300	128	—
Commercial and Industrial	65,400	2,220	20,600	788	3,250
Electric Light and Power	8,200	597	7,000	283	70
Financial, Land and Investment	86,200	1,268	26,600	930	327
Gas	11,800	1,275	2,000	93	46
Iron, Coal and Steel	6,700	115	2,200	66	—
Mines	80,300	2,905	6,300	305	620
Nitrates	3,400	—	1,700	—	—
Oil	108,600	11,125	12,100	638	279
Rubber	81,500	269	5,600	174	—
Shipping	11,800	540	5,600	197	697
Tea and Coffee	38,600	1,429	2,400	101	4
Telegraphs and Telephones	24,000	1,192	4,300	175	2
Tramways	15,500	349	15,300	344	310
Waterworks	4,600	229	1,900	82	3
Total	823,500	29,450	387,300	12,448	7,795

[1] Repayments in all cases are actual sums repaid as distinct from the nominal amounts. They also include, in a few instances, the sums returned to shareholders in connection with the reduction of ordinary share capital or redemption of preference shares.

reserves. In good times the former may amount to as much as £10–15 million, while the sums placed to reserve out of profits may be considerable. Conversely, in bad times substantial

sums may be drawn from reserves in the United Kingdom to meet head office expenses and for payment of dividends.[1]

In spite of the intensification of world depression as a whole in 1932, the year prior to the abandonment of the Gold Standard in the United States, total dividend payments were slightly higher in 1933, although interest on loans was reduced by another £1 million as a result of increased exchange restrictions and further defaults. Oil companies recorded better results, while the earnings of Mining and Tea companies began to reflect the favourable influence of the restriction schemes in Tin and Tea.[2] On the other hand, exchange difficulties were chiefly responsible for a decline in dividends remitted in the case of railway and telegraph companies in South America. The following figures show the dividends distributed to U.K. investors since 1929 by British companies operating overseas.

Dividend Payments of British Companies operating Abroad.

	Dividends Distributed.	Percentage of Capital.
1929	£67,674,000	8·4%
1930	58,966,000	7·1
1931	33,296,000	4·1
1932	29,029,000	3·6
1933	29,450,000	3·6
1934 (provisional estimate) .	33,200,000	4·0

Dividends in 1934 are provisionally estimated to have increased by £3¾ million as a result of the noticeable recovery in the summer months of 1933 and the spring of 1934. Changes in earnings tend to follow closely changes in the world price level and for a time the depreciation of the dollar, as already stated, was successful not only in raising prices in the United States but also in the sterling area and in Gold Standard countries.[3] A more important contribution to the improvement in 1934 in the earnings of British companies abroad was made by the international restriction schemes in Tin, Tea and Rubber. Whereas during the downward course of a trade cycle restriction schemes become ineffective since they tend to accelerate the shrinkage in demand, a considerable measure of

[1] For the purposes of the calculation of the U.K. balance of payments the above estimates of income cannot, therefore, be applied unless appropriately adjusted.

[2] The improvement in the earnings of gold mines is dealt with in the next section, the South African gold-mining companies being nearly all registered in the Union of South Africa.

[3] In the autumn of 1933, however, the whole of this improvement was lost and the decline in the dollar exerted a marked deflationary effect on world prices.

success may be achieved during the period of recovery. The remarkable extent to which prices of commodities subject to restriction schemes have, in fact, responded to the curtailment in production since 1932 is shown herewith :

Average Yearly Prices.

	1934.	1933.	1932.
Tin (per ton) . .	£230 7*s*. 5*d*.	£194 11*s*. 1*d*.	£135 18*s*. 10*d*.
Tea (per lb.) . .	13·27*d*.	11·78*d*.	9·45*d*.
Rubber (per lb.) .	6·24*d*.	3·25*d*.	2·34*d*.

The importance of the rise in the prices of these commodities may be gauged from the fact that about £100 million of British capital is invested in companies producing Tin and Rubber in Malaya alone and over £40 million in Tea companies in India and Ceylon.

GROUP III.

Companies Registered Overseas.

The bulk of investment in the bonds and shares of Foreign and Colonial companies (*i.e.* companies registered abroad) is of more recent date than the capital examined in the previous section. In fact, it may be said that the growth of the form of investment now being considered indicated the diminished scope for the direct development of overseas territories by British skill and enterprise, and the desire of Dominion and foreign countries, after a certain stage, to proceed with further developments under their own management. The incidence of British income tax, particularly in post-war years, has been an important factor in this connection. Nevertheless, a large number of companies registered in the Dominions is substantially owned and virtually controlled by British interests.[1] Unlike those dealt with in the previous section, many of the securities classified in Table VI below are quoted in a number of foreign centres, more particularly New York, Paris and Amsterdam. It follows that in a year of active Stock Exchange dealings a considerable change may take place in the total nominal amount held in the United Kingdom. Owing to the fairly high proportion of bearer securities in the case of foreign companies, the nominal amounts

[1] The South African gold mines are the principal example of such companies, although large blocks of the shares are held in South Africa and on the Continent.

of capital shown in the next table include items which can only be approximately assessed.[1]

Table VI.

Nominal British Capital invested in Foreign and Colonial Companies; Interest and Dividends received and Loan Capital repaid.

(£000)

	Share Capital.		Loan Capital.		
	Nominal Amount.	Dividends.	Nominal Amount.	Interest.	Repayment.
1932.					
Dominion and Colonial Rails	62,500	1,616	159,600	7,088	227
American Rails	18,200	308	9,700	571	—
Banks	25,600	1,472	18,000	862	258
Breweries	1,300	24	100	5	—
Canals and Docks	1,600	1,946	2,800	1	—
Commercial and Industrial	63,700	5,613	24,400	1,321	602
Electric Light and Power	15,200	1,023	30,700	1,536	1,095
Financial Land and Investment	26,800	626	25,000	1,013	393
Iron, Coal and Steel	6,800	198	10,000	506	62
Mines	56,800	6,975	6,600	462	76
Nitrates	3,000	—	5,300	226	78
Oil	20,300	140	—	—	208 [1]
Shipping	6,600	342	800	47	52
Telegraphs and Telephones	6,000	494	10,000	558	31
Tramways	10,600	113	11,200	549	12
Foreign Rails	19,000 [2]	1,225 [2]	60,600	2,340	425
Gas			400	22	—
Waterworks			—	6	52
Total	344,000	22,115	375,200	17,113	3,571
1933.					
Dominion and Colonial Rails	63,500	123	158,200	6,531	500
American Rails	17,300	113	9,200	448	—
Banks	26,000	1,399	15,100	570	1,459
Breweries	1,300	12	100	5	3
Canals and Docks	1,600	2,064	2,800	—	—
Commercial and Industrial	70,000	5,151	21,400	1,094	870
Electric Lighting and Power	16,500	1,018	28,400	1,368	2,054
Financial Land and Investment	21,900	617	23,000	1,002	299 [1]
Iron, Coal and Steel	6,800	245	8,900	331	108
Mines	57,900	7,331	8,300	582	178 [1]
Nitrates	3,000	—	5,200	10	71
Oil	19,300	720	—	—	278 [1]
Shipping	6,600	368	700	33	42
Telegraphs and Telephones	5,700	346	9,400	510	73
Tramways	10,600	2	10,800	420	12
Foreign Rails	17,000 [2]	1,000 [2]	47,900 [3]	1,815	3,698
Gas			400	22	—
Waterworks			—	—	—
Total	345,000	20,509	349,800	14,741	9,645

[1] Repayments in certain sections, viz. Financial Land and Investments, Mines and Oil, include repayments of capital to shareholders.

[2] Owing to the great preponderance of bearer securities in the categories Foreign Rails, Gas and Waterworks, the estimates for share capital and dividends in these three sections are only approximations.

[3] The reduction in British loan capital outstanding in Foreign Rails from £60·6 million in 1932 to £47·9 million in 1933 is explained only partly by the substantial repayments. The chief reason was the exchange of sterling debentures of a foreign railway for shares of a mining company (see p. 446).

[1] The task of measuring the change in the nominal amount of share capital held in the United Kingdom from year to year is also rendered more difficult by the inclusion of shares of no par value which figure in the above table at the values assigned to them in latest available balance sheets.

success may be achieved during the period of recovery. The remarkable extent to which prices of commodities subject to restriction schemes have, in fact, responded to the curtailment in production since 1932 is shown herewith :

Average Yearly Prices.

	1934.	1933.	1932.
Tin (per ton)	£230 7*s*. 5*d*.	£194 11*s*. 1*d*.	£135 18*s*. 10*d*.
Tea (per lb.)	13·27*d*.	11·78*d*.	9·45*d*.
Rubber (per lb.)	6·24*d*.	3·25*d*.	2·34*d*.

The importance of the rise in the prices of these commodities may be gauged from the fact that about £100 million of British capital is invested in companies producing Tin and Rubber in Malaya alone and over £40 million in Tea companies in India and Ceylon.

Group III.

Companies Registered Overseas.

The bulk of investment in the bonds and shares of Foreign and Colonial companies (*i.e.* companies registered abroad) is of more recent date than the capital examined in the previous section. In fact, it may be said that the growth of the form of investment now being considered indicated the diminished scope for the direct development of overseas territories by British skill and enterprise, and the desire of Dominion and foreign countries, after a certain stage, to proceed with further developments under their own management. The incidence of British income tax, particularly in post-war years, has been an important factor in this connection. Nevertheless, a large number of companies registered in the Dominions is substantially owned and virtually controlled by British interests.[1] Unlike those dealt with in the previous section, many of the securities classified in Table VI below are quoted in a number of foreign centres, more particularly New York, Paris and Amsterdam. It follows that in a year of active Stock Exchange dealings a considerable change may take place in the total nominal amount held in the United Kingdom. Owing to the fairly high proportion of bearer securities in the case of foreign companies, the nominal amounts

[1] The South African gold mines are the principal example of such companies, although large blocks of the shares are held in South Africa and on the Continent.

The increase of £3·0 million estimated for 1934 reflects the improvement in earnings in the sterling area during the year as well as the further depreciation in sterling which was responsible for another advance in the average price of gold, from £124 9*s.* per oz. in 1933 to £137 8*s.* in 1934. Dividends received in the United Kingdom on account of gold-mining shares are estimated to have increased by a further £1·5 million in 1934.

Summary.

The complete results for 1933 for the three classes of securities examined in the previous pages are summarised in the following table and compared with the corresponding results for two previous years :—

Table VII.

Nominal Amount of British Oversea Investment in Quoted Securities; Interest and Dividends received and Loan Capital repaid.

(£000.)

	Capital.	Income.	Repay-ment.
		1931.	
Foreign, Dominion and Colonial Governments and Municipalities	1,441,000	65,920	16,267
British Companies abroad	1,210,000	48,747	4,900
Foreign and Colonial Companies	759,000	40,846	5,585
Total	3,410,000	155,513	26,752
		1932.	
Foreign, Dominion and Colonial Governments and Municipalities	1,432,000	62,377	39,686
British Companies abroad	1,204,000	42,513	4,776
Foreign and Colonial Companies	719,000	39,228	3,571
Total	3,355,000	144,118	48,033
		1933.	
Foreign, Dominion and Colonial Governments and Municipalities	1,480,000	61,126	49,392
British Companies abroad	1,211,000	41,898	7,795
Foreign and Colonial Companies	695,000	35,250	9,645
Total	3,386,000	138,274	66,832

The nominal amount of British capital invested abroad in *marketable* securities at the end of 1933 is estimated at £3,386 million. This total does not, of course, include the considerable amount of investment in property, mortgages, etc., and in securities not regularly dealt in on the London market. Dollar bonds and shares are an important part of this item and these are

held predominantly by Insurance Companies and Investment Trusts.

Returns received from a number of American companies indicate that British participation in their share and loan capital was somewhat less at the end of 1933 than in the previous year; this is also confirmed by an examination of the change in the volume of dollar securities held by Investment Trusts in these years. The sharp decline in business activity in the United States leading up to the grave banking crisis of the spring of 1933 caused some selling of investments and, although boom conditions again prevailed on Wall Street during the summer months, uncertainty about the future of the dollar was too great to permit of any appreciable reinvestment.[1] The nominal amount of British capital investment other than in quoted securities is, therefore, approximately estimated at £280 million at December 1933 as compared with £285 million at December 1932. No great accuracy is claimed for this figure, since it is intended to cover not only security investments, but also a large number of miscellaneous assets of companies and individuals to which in any case a nominal value can only be arbitrarily assigned.

However, if this approximation is added to the statistically more reliable figure arrived at above, British capital employed in all forms of oversea investment is calculated at £3,666 million at the end of 1933, as compared with £3,640 million at the end of 1932. Although the absolute change in the nominal amount is of little significance, the reversal in 1933 of the downward trend which had been in evidence since 1930 is important.

A comparison of the sums raised on the London market for oversea issues with the amounts repaid through the operation of sinking funds and maturities may be of interest.

	British Subscription to New Overseas Issues.	Repayment to the United Kingdom.
1929	£96 million	£49 million
1930	98	39
1931	41	27
1932	37	48
1933	83	67

Repayments in 1933 amounted to an exceptionally heavy item of £67 million. The above figures, however, exclude con-

[1] It may be recalled that in 1933 almost the whole of the U.K. 5½ per cent. dollar loans due 1937, of which $136 million was outstanding, was converted into U.K. sterling bonds. The proportion of this dollar loan held by British nationals had already been high prior to conversion, but further amounts were purchased in New York before the final date for conversion.

versions, but not new issues, the proceeds of which have been used wholly or in part to effect redemption of existing loans. Such refunding operations, which were of frequent occurrence in 1933, account for the apparently large volume of repayments during that year.

Income from British Oversea Investments.

The following table illustrates the trend of the annual income obtained from Britain's oversea investments since 1929. The figures show the income accruing to investors (before deduction of British income tax), and for reasons already stated (see p. 446) should not be applied in a calculation of the balance of payments of the United Kingdom unless suitably adjusted.[1]

TABLE VIII.

Britain's Oversea Investment Income 1929–34.[2]

	1934.[2]	1933.	1932.	1931.	1930.	1929.
Dominion, Colonial and Foreign Government and Municipalities	61·0	61·1	62·4	65·9	64·7	64·7
British Companies (registered in the U.K.)	45·7	41·9	42·5	48·8	76·5	86·0
Foreign and Colonial Companies (registered abroad)	39·5	35·3 [3]	39·2	40·8	51·0	61·7
Other Investments (not covered by above) [4]	12·1	11·4	12·3	13·2	16·8	18·5
Total	158·3	149·7	156·4	168·7	209·0	230·9

The rise of £8·6 million in 1934 from the low figure of £149·7 million in the previous year does not fully reflect the improvement that occurred in the remittances to the United Kingdom in respect of capital employed abroad. During the years of depression large sums were frequently drawn from reserves to meet dividend payments and other commitments, while the usual allocations to provide for depreciation and obsolescence were well below normal. The welcome improvement in earnings in 1934 provided British companies with an opportunity to improve their

[1] Account would have to be taken not only of head office expenses and sums placed to or withdrawn from reserves, but also of the income derived by oversea nationals from their investments in the U.K.

[2] The figures for 1934 are provisional.

[3] The figure finally obtained for the income from British investments in Foreign and Colonial companies in 1933 is appreciably less than the forecast given in a previous article. The loss in sterling income due to the depreciation of the dollar and to increased default was greater than anticipated.

[4] The average rate of income derived from these investments is assumed to be the same as that obtained from negotiable securities.

financial structure, with the result that the proportion of profits placed to reserve during the year rose sharply. Thus from a large sample of reports of British companies (operating at home and abroad) the *Economist* estimated the sums placed to reserve at 19·7 per cent. of profits in 1934, as compared with 11·5 per cent. in 1933 (see *Economist*, Jan. 19, 1935, p. 112).

The factors responsible for the rise in investment income in 1934 have already been discussed in previous pages. The outlook for further improvement is undoubtedly brighter than for some time past. Income from foreign Government and Municipal bonds is unlikely to suffer further serious loss through default, while, on the other hand, there is hope for an improvement in this income as a result of negotiations for at least partial resumption of service. The proposal of the Chilean Government to allocate the proceeds of an export tax on nitrate and copper for debt service is a case in point. The increasing trade within the sterling area, the prospect of a continued high price for gold and the operation of the restriction schemes in Tea, Tin and Rubber may afford a higher level of earnings for a large number of British companies operating abroad, while the latest restriction agreement for Copper may substantially raise the earnings of copper-producing companies in the Empire. On the other hand, beyond a certain point, any further improvement would seem to depend upon an increase of trade throughout the world and a general advance in world prices. The problem of securing these is closely associated with that of stabilisation of the major currencies at appropriate levels and of a general reduction in tariffs and other trade restrictions prior to or following stabilisation. However, even if these desirable objectives could be attained, it is questionable if Britain's income from her Oversea Investment can for many years reach the high level of £300 million per annum such as prevailed in 1926 and 1927. Final settlements will result in a considerable reduction in the rate of interest payable on defaulting foreign bonds, while conversion and refunding operations will effect a gradual but substantial decline in the rate payable on Dominion loans. Restriction schemes may succeed in forcing up prices of important commodities to higher levels, but the stimulus given to production outside restricting areas and modern intensive research into the possibilities of substitute products indicate that the fantastic prices attained by certain articles in the years prior to the depression are no longer possible.

ROBERT KINDERSLEY

WAGES AND INTEREST: THE DYNAMIC PROBLEM

I

VERY much the most difficult and awkward part of the theory of wages is that which abuts on the theory of capital and interest. It is impossible to have an adequate theory of the determination of wages—at least in the short period—without having an adequate theory of capital and interest; and up to the present that has not been generally available.

Most modern theories of capital fall into one or two classes. On the one hand, there is the "timeless" type of theory, which treats capital as a factor of production like any other. Such a theory is that of J. B. Clark. In practice, it assimilates capital to land, treating it as the inexhaustible provider of a regular stream of resources. On the other hand, there is the "period of production" theory of Böhm-Bawerk and Wicksell. This treats capital as "stored-up labour"—labour stored up *in the past*.[1]

In spite of the controversies which have gone on between the adherents of these two theories, they both fall under the same condemnation. They are both "stationary" theories, built upon the hypothesis of a stationary state, quite satisfactory under that hypothesis, but incapable of extension to meet other hypotheses, and consequently incapable of application. In a stationary state they are both correct. The "timeless" theory is correct, because capital, in stationary conditions, must always be renewed in exactly the same form as that in which it wore out; even if it is technically exhausted, it is economically inexhaustible. Böhm-Bawerk's theory is correct, because the amount of labour employed in producing new capital instruments must always be exactly the same as that which had been employed in the past

[1] In my book, *The Theory of Wages*, I employed an unhealthy amalgam of these two theories; and for this, at least, I was very properly rebuked by Mr. Shove (ECONOMIC JOURNAL, 1933, pp. 470–72).

The present paper, which seeks to explore a better path, owes something to Fisher's *Theory of Interest*; and more to those few works of Professors Lindahl and Myrdal which are accessible to one who does not read Swedish (Lindahl, "The Concept of Income," in the Cassel Essays; Myrdal, "Der Gleichgewichtsbegriff," in *Beiträge zur Geldtheorie*). I have also had the advantage of reading some unpublished writings by Mr. A. G. Hart, of Chicago, and Mr. V. Edelberg, of London, which bear closely upon my subject.

in producing a similar quantity of those instruments which are now in use. But once we leave stationary conditions, these convenient equalities disappear, and theories based upon them cease to be applicable.

To found a theory upon an assumed equality, which is not a real equality, is a most dangerous thing to do; for the more complex the theory becomes, the more specialised it becomes. The blinkers grow, until they shut out nearly all the landscape. One distinction blurred over breeds another, until we have in the end only a special case of a special case of a special case.

If we must simplify (and of course we must—to take into account all the complexities at one bound would be ridiculous), it seems much better to simplify in another way. I propose in this paper to employ all the ordinary simplifications of economic theory—those simplifications which we can employ comfortably, because we have some idea of how to remove them—but not to employ the dangerous simplification of a stationary state.

The first advantage of leaving stationary conditions is that it imposes upon us a new responsibility about time. In a stationary state, one moment of time is much like another, and it is possible to be very careless about time without going far wrong. But in dynamic conditions, the events of one moment are ordinarily different from the events of another, so that we are warned to mark them off clearly if we want to avoid confusion.

One consequence of this seems to be that in dynamic analysis the assumption of continuity, which is so convenient in statics, becomes highly inconvenient. We are accustomed to thinking of economic magnitudes as continuous "flows," but the convenience of this is limited to the static case, when the flows are constant through time. A flow which varies through time is very difficult to handle. Consequently it seems best to cut up the varying flows into short sections, each of which can be treated as constant. We can do this by supposing changes to take place, not continuously, but at intervals.[1]

Bearing these things in mind, let us draw up a set of simplifying assumptions.

(1) We shall assume a community which is wholly engaged in the production of a single homogeneous good, which we shall call Bread.

(2) Bread is made by the co-operation of labour (assumed

[1] It seems quite as legitimate to treat the continuous variable time as if it were discontinuous, as it is to treat the discontinuous demand schedule as if it were continuous.

homogeneous) with capital goods (not homogeneous) which we shall call Equipment. Equipment may include land, buildings, machinery, raw materials, and half-finished goods.

(3) Since every part of time has characteristics of its own, we cannot manage the analysis of more than a finite period of time. In particular, the period of time under consideration must have a beginning. Everything which takes place before that beginning is a datum.

(4) At the beginning there exists a certain amount of Equipment, and a certain stock of finished Bread. The Bread and the Equipment are owned by entrepreneurs; but against these assets, the entrepreneurs have Debts, owed either to the labourers or to rentiers. The amounts of initial Bread, initial Equipment, and initial Debts are the necessary result of what has gone before, and are therefore all data.

(5) In order to avoid monetary complications, we shall provisionally assume that all prices (including Debts) are reckoned in terms of Bread. The rate of interest is a "bread" rate of interest; it arises out of a contract to supply so much bread in the future in return for so much bread now.

(6) Transactions take place discontinuously. Let us say that the market is only open on one day in the week (Monday); on that day labour is hired, labour is paid, and on that day loans are made. (Equipment, on the other hand, is not exchangeable.) We shall also assume here that all loans are made for the week, and can be repaid if either party desires on the following Monday. This is a more dangerous assumption than most, since it implies that all loans are short. It is not, however, the sort of assumption which is very difficult to remove.

(7) Lastly, I assume perfect competition in the market for labour, in the market for loans, and consequently in the market for bread.

II

In our simplified economy there are thus two prices: a rate of wages and a rate of interest. On each market day these two prices have to be determined, the rate of wages at that level which will equate the demand and the supply for labour on that day, the rate of interest at that level which will equate the demand and the supply for loans. Now these demands and supplies are simply the resultants of the actions of individual entrepreneurs, labourers and rentiers; so that in order to discover the principles governing them, we have to examine the position of a representative entre-

preneur, a representative labourer, and a representative rentier respectively.

The representative rentier finds himself on the first Monday with certain debts due to him (debts which include accrued interest, that being also a "bygone"). He has to decide how much of this sum to consume, and how much to reinvest. His decision will depend, in the general case, upon his relative preferences for present consumption, and for consumption at various future dates; upon the current rate of interest and upon the rate of interest which he expects to rule in future weeks. These are the things, that is, which he may take into account; it makes no difference to our analysis if he is, in fact, much less circumspect, and bases his decision (say) only upon the current rate of interest, and his desires to possess certain capital values at the end of the first week.

If we could assume that the labourer cannot vary the amount of labour which he is willing to perform in any particular week, then the position of the labourer would be substantially similar to that of the rentier. He receives a certain claim to bread on the first Monday (either in respect of past services or as an advance on future), and he has to decide how much to consume now and how much (if any) to invest. The only difference would be that his decision may be affected by his anticipations of future rates of wages.

If we must assume that the labourer can vary the amount of labour he performs, so that he has to choose how much labour to perform now, a rather more difficult problem emerges. But although it could be dealt with by the general methods of this paper, it seems unnecessary to consider it here.

The representative entrepreneur has to consider how much labour to employ now, and how far he will increase (or diminish) his debts. This last will depend partly upon his relative preferences for present and future consumption (in which matter he behaves just like a rentier), but partly also upon his estimates of the profitability of production. His demand for labour will depend wholly upon his estimates of the profitability of production—that is to say, upon the particular production plan he chooses to adopt.

A production plan can be regarded, on the basis of our simplifying assumptions, as a series of outputs of bread in successive weeks, together with the series of inputs of labour necessary to obtain those outputs.[1] For the entrepreneur has actually to determine, not only how much labour he will employ in the first

[1] Each output to be reckoned at the date when it is sold, each input at the date when it is paid.

week, but how he will employ that labour, whether in the production of bread for the next market day, or in the production of bread for the more distant future (activity which, a week after, will only have resulted in the production of equipment). He has a choice between a wide variety of production plans, but not an unlimited variety, since his choice is conditioned by the amount of equipment which is in his possession at the beginning. The fact that his initial equipment is given imposes *one* relation on the stream of outputs and inputs. Thus, if all the inputs are given, and all outputs but one, we can tell what is the maximum output which can be obtained on that remaining date; if all the outputs are given, and all inputs but one, we can tell what is the minimum input necessary on the remaining date. This relation may be called, by analogy with static theory, the *production function*.

Since he works under this limitation, the entrepreneur will only be able to increase his output at any specified date in the future, if he either diminishes his output at some other date, or increases his employment of labour at some date or other. He cannot increase the output of any period without either diminishing some other output or increasing some input.

Of the various possible plans, that one will be chosen which maximises the present value of the entrepreneur's net assets.[1] His estimation of this value depends partly upon the current rates of wages and interest, partly upon the wages and interest rates which he expects to rule at relevant dates in the future.[2] These latter rates are pure estimates, but on these estimates both the present value of his assets and the production plan adopted will depend.

Present value will be maximised when it is impossible to increase it by any variation in the production plan. Three kinds of variation are technically possible: (1) output of one date may be substituted for output of another date; (2) input of one date may be substituted for input of another date; (3) one output and one input may be simultaneously increased or diminished. Examination of the third type of change gives us a set of marginal productivity conditions; and it will appear that when these

[1] This depends upon the assumption that he can borrow or lend freely at fixed rates of interest (perfect competition). The entrepreneur's preferences about consumption at different dates do not affect the choice of a production plan. For any increase in the present value of his assets will always make it possible for him to reach a preferred consumption plan by suitable borrowing or lending.

[2] More strictly, the *probable* rates. Cf. Marshall, *Principles*, 8th edition, p. 858—the last sentence in the book.

conditions are satisfied, changes of the first two types cannot be profitable either.

Change of the third type will be unprofitable if the cost of any unit of future labour (discounted back to the present) or current labour (undiscounted) equals the discounted value of every alternative output that could be got from it. That is to say, the anticipated rate of wages in any period must equal the marginal product of that labour in any subsequent period (discounted back to that period), or to the marginal product of that labour in any previous period (accumulated on to that period).[1] Once these conditions are satisfied, it follows that a small change of the third type must leave present value unchanged. But a small change of the first or second type can always be reduced to two changes of the third type; if these leave present value unchanged, their sum must do so as well. The marginal productivity conditions are therefore enough to determine the production plan.

But although these marginal productivity conditions are sufficient to determine the production plan, there is no need to put the conditions into this form if it is not convenient. We can, if we like, derive conditions from the first type of change—the substitution of one output for another. This would give us conditions analogous to Wicksell's equation—the rate of interest equals the relative marginal productivity of "time."[2] Unlike Wicksell, however, we have to take into account the possibility that the expected rate of interest may be different at different future dates.[3]

[1] It should be observed that in general the labour of any period has as many marginal products as there are periods under consideration, for it will be possible, by employing extra labour at any particular date, to increase output at any other period we choose. Future labour even has a marginal product in the periods before it is actually applied; for the output of bread in the near future might be increased at the expense of the deterioration of equipment—which could be made good at a later date. (I owe this last point to Mr. Edelberg.)

[2] *Lectures on Political Economy*, Vol. I, pp. 172–184.

[3] Like the ordinary static marginal productivity theory, the above analysis assumes that the production function is continuous. This assumption has caused trouble even in static theory (witness the disputes about "constant coefficients" or "fixed proportions") and it is much more dubious here. For there can be no doubt that a good many output-input pairs will be quite *unrelated*, in the sense that a small increase in input at date t_1 could not facilitate any increase in output at date t_2, while a small diminution in input at t_1 could not leave all other outputs unchanged, even if output at date t_2 were abandoned altogether.

The difficulty could be overcome by replacing our "marginal products" by "marginal net products" in the manner of Marshall, but it seems hardly worth while to work that out here. For the reader will observe that in the following section we never need to assume that *any* input-output pair is capable of variation; we shall only use the marginal productivity conditions to give us the laws of adjustment for those pairs which are capable of being adjusted.

III

Like the marginal productivity conditions of static theory, our present marginal productivity conditions are only a means to an end. What we want to discover from them is the way in which the firm's production plan (and in particular its demand for current labour) will be affected by changes in the prices and price-anticipations which govern it. This we may now proceed to examine; but it is very important to be clear first of all that the changes with which we are concerned are purely hypothetical changes. We are still on our first Monday; we are examining the differences between the production plan actually adopted and that which would have been adopted if prices or price-anticipations had been different.

The only current prices which enter into the problem are the current rate of wages and the current rate of interest; the only anticipated prices the rates of wages and rates of interest which the entrepreneur expects to rule in subsequent weeks. How will changes in these rates affect the current demand for labour?

A fall in the current rate of wages (unaccompanied by any fall in expected rates of wages, or by any change in interest) will ordinarily increase the demand for labour in two ways. On the one hand, it will cause current labour to be substituted for future labour; on the other hand, it will reduce the marginal cost of output at various dates in the future. Consequently, it will be profitable to plan an expansion of future output, in whose production more current labour, at any rate, is likely to be used.

A fall in the current rate of interest (accompanied by any fall in expected interest rates, or by any change in wages) will have exactly similar effects. It will raise the discounted values of all future receipts and future outpayments relatively to that of current labour; and this comes to the same thing, in its effects on the production plan, as a cheapening of current labour.

A fall in the rate of wages which is expected to rule at some future date (current rates, and all other expected rates, remaining the same) is less certain in its effects. It is natural to suppose that the labour of this future period would tend to be substituted for current labour, and therefore the demand for current labour would be diminished. But this is not certain; for it is conceivable that the labour of the two periods may be technically complementary, so that the new production plan, although it is adopted because it uses more labour at the future date (when labour is expected to be cheap), may also demand the employment of more current labour as well.

A fall in the rate of interest expected to rule during some future period (once more, other rates being equal) is most likely to increase the demand for current labour. For it raises the discounted values of all the outputs subsequent to the future period in question, and also raises the discounted cost of all subsequent inputs. It thus becomes more profitable to produce certain outputs, and this will normally increase the demand for labour of any period; but at the same time late applications of labour have become more expensive, so that the increased demand is likely to fall mainly upon the labour of earlier periods. Among these is current labour, and the demand for current labour is therefore likely to rise.[1]

These four cases give us the elements of our present problem; for all possible changes in wages and interest can be reduced to combinations of these four cases. Some particular combinations, however, are so important that it may be useful if we work them out in detail.

We have to recognise that the expectations of the future course of wages (and interest) are largely based on current rates; consequently a change in current rates is very unlikely to leave expected rates unchanged. When this is taken into account, we evidently ought to inquire what is the effect of a change in current wages (or interest) which induces a proportionate change in expected wages (or interest) in the same direction.

A general fall in wages (current and expected) will diminish the marginal cost of output at all dates, and must therefore lead to an expansion of output. This expansion may be general (at all dates), but it is not inevitable that it should be so. (Technical conditions may concentrate the increased output upon particular periods.) In order to produce the increased output, more labour will be needed; but how this increased demand for labour will be divided between current labour and future labour cannot be determined *a priori*. It is conceivable, though not perhaps very probable, that there might be no increased demand for current labour at all.[2] Since future labour is unchanged in cost relatively

[1] Against this must be set the empirical fact (on which Marshall based his analysis of the "short period") that initial equipment is likely to be fairly specific. This implies that the technically possible production plans are likely to vary more widely in the opportunities they offer for the employment of future labour (particularly labour of the more distant future) than in the opportunities they offer for current labour. In the present application, therefore, it would seem that the increased demand for labour is more likely to exert itself upon future labour (though labour of an earlier date than that at which the fall in interest is due) than upon current labour itself.

[2] Compare the preceding note.

to current labour, there will be no direct substitution of one for the other.[1]

A general fall in interest (current and expected) will lead to a more complicated change. It is now not merely a matter of future labour becoming dearer relatively to present; future labour of every period becomes dearer relatively to all earlier labour (current and future), cheaper relatively to all future labour of a later date. There will therefore be a slight incentive to substitute current labour for labour of the near future, and at the same time a much stronger incentive to substitute it for labour of the distant future. Taking these together, it looks as if there would be a very definite increase in the demand for current labour.[2]

But this is not all. The discounted values of all future outputs would be raised by an amount which would increase as the output date receded into the future. This would be a further factor tending to increase the demand for labour, which would exert itself upon labour of all periods; but particularly upon those applications of labour which are appropriate for the production of increased output in the more distant future. There can be little doubt that this would be a further factor tending to increase the demand for current labour.

Six cases are, perhaps, enough. They seem to show that any fall in wages or interest is likely to increase the current demand for labour, excepting a fall in the expected future rates of wages,

[1] Since the amount of labour employed will tend to increase relatively to the initial equipment, we may say, if we like, that there is *substitution* of current labour for past labour. But this is rather misleading, as the amount of past labour is embodied in the initial equipment, and is a *datum*. The use of such expressions in Chapter IX of my *Theory of Wages* misled many readers, and to some extent the author himself.

[2] Even this might conceivably be offset by queer forms of complementarity. Take the following special case. A fall in the rate of interest for all periods raises slightly the discounted cost of labour to be performed in three weeks' time, and raises much more the discounted cost of labour to be performed in 20 weeks' time. The important substitution will therefore be against labour performed in 20 weeks' time—in favour of current labour, and labour performed in three weeks' time. Now it is possible that labour performed in three weeks' time may be much more easily substituted for the distant future labour; so that this substitution would be effective, while the substitution of current labour for the distant future labour (on account of technical conditions) would be relatively ineffective. Further, if this was so, it would be possible for current labour to be complementary with the distant future labour; so that the marginal product of current labour might be diminished, by the diminution in the planned employment of labour in 20 weeks' time, more than enough to offset its own increased relative cheapness. Whence the demand for current labour might be diminished.

This is perhaps improbable, but it is not inconceivable. It is given here as an example of the things not dreamed of in the philosophy of Böhm-Bawerk and Wicksell.

unaccompanied by a fall in current rates. This is, on the whole, what we should expect; so far then our analysis has done no more than uncover a few (doubtless improbable) exceptions to a common-sense conclusion.

IV

These things, then, determine the firm's demand for labour on the first Monday; what determines its demand for loans? Strictly, what we want is the extent to which it will desire to increase or diminish its debts; and this increase or diminution is the difference between its expenditure (on input and entrepreneurs' private consumption) and its receipts from output. The demand for loans thus depends very largely upon the demand for labour, and this dependence can be a source of great confusion if it is not treated very carefully.

There is, however, a way by which this difficulty can be avoided. The market for loans will be in equilibrium on the first Monday (demand will equal supply) if the extent to which entrepreneurs desire to increase (or diminish) the debts owed by them is exactly matched by the extent to which labourers and rentiers desire to increase (or diminish) the debts owed to them. Rentiers will desire to diminish the debts owed to them by an amount equal to their present consumption;[1] labourers to increase (or diminish) the debts due to them by an amount equal to the difference between their wages and their present consumption. Therefore, if the loan market is to be in equilibrium, we must have

$$\text{Wages} + \text{Entrepreneurs' consumption} - \text{Output of bread}$$
$$= (\text{Wages} - \text{Consumption of labourers}) - \text{Consumption of rentiers}.$$

$$\therefore \text{Entrepreneurs' consumption} + \text{Rentiers' consumption}$$
$$+ \text{Labourers' consumption} = \text{Output of bread}.$$

$$\therefore \text{Demand for bread} = \text{Supply of bread}.$$

An obvious result, so it would appear! But it conveys the less obvious message, that in order to determine the rate of interest, we need not examine that elusive thing, the "capital market"; for if the market for labour is in equilibrium, and if the market for bread is in equilibrium, the market for loans must be in equilibrium too.

The reason why we can refer back to the bread market in this way is that we have taken bread as our standard of value. There are two prices to be determined—a rate of wages and a rate of interest; and three equations to determine them—equations of

[1] It will be remembered that these debts include accrued interest.

supply and demand for labour, loans and bread. Of these three equations (as in the system of Walras) one follows from the other two. But it is completely indifferent which of the three equations we strike out in this way; convenience seems to dictate that we should strike out the equation relating to loans.

As an example of the sort of analysis which now becomes open to us, let us take the case of Trade Union action. Suppose that on our first Monday the labourers form a Trade Union, and insist (successfully) upon a higher wage than they would otherwise have got. What will be the effect on employment? That is to say, what will be the difference between the number of labourers employed under these conditions and the number who would have been employed at the same date if there had been no combination?

The analysis of the last section enables us to answer this question, so long as we can assume that the rate of interest is unaffected. It will depend to some extent upon the length of time for which the rise in wages above the competitive level is expected to last; but in any case the demand for labour on the first Monday will probably fall—though, in view of the specificity of equipment, not much.

Is it necessary to make any correction of this result for a change in the rate of interest? We can investigate this by inquiring whether the higher rate of wages will affect the supply or the demand for bread. The supply of bread is (mostly) a datum, due to decisions which have been made in the past; so it is only the demand for bread which may be seriously affected. Now, since the receipts of the labourers will have been increased, and they are not likely to desire to save all their gains, their demand for bread will probably rise. There is no reason why the demands of the rentiers should be affected. The only hope of preventing a rise in the total demand for bread, therefore, comes from the entrepreneurs.

As a result of the rise in wages, the total value of the entrepreneurs' assets (measured in terms of bread) must have been reduced. Consequently, on the basis of their present expectations, they will have to plan a reduction in consumption either now or in the future. If they are quick to adjust their consumption habits, they may choose to consume less now; in which case the total demand for bread may be unaffected. But if they are not quick, the total demand for bread will rise, and the rate of interest will rise.

The effects of a rise in the rate of interest can be worked out on

the same lines as before. It generally gives a secondary fall in the demand for labour in addition to the primary fall.[1]

V

This analysis of the effects of Trade Union action is, I believe, formally correct: that is, it is correct on its own assumptions. But it is not an analysis which can be applied to the real world in a rough-and-ready fashion—though it is capable of being extended in such a way as to make it applicable.

For the world we have been analysing is a world in which wages are paid in bread, and the rate of interest is a "bread" rate of interest; in the real world wages are paid in money, and the rate of interest is a money rate. This affects our analysis in two ways.

On the one hand, since the enterprise does its calculations in money, and the price of its product in terms of money is not fixed, we have to take into account, when analysing the production plan, not only current and expected rates of wages and interest, but also the current price of the product, and the expected movement of that price. This means that when we are analysing the effects of a rise in money wages, we have another set of indirect influences to take into account—indirect influences through the prices of products.

On the other hand, since money is now taken as the standard of value, it is the equation of demand and supply for money which is available to determine the rate of interest. The "consumption-good" equation which we used before is now no longer available; for it is fully occupied in determining the prices of consumption goods. This means that the reactions through interest are monetary reactions, and will depend in practice on the monetary system.

Thus, in order to analyse the effects of a rise in money wages, we ought (1) to examine the effect on the production plans, assuming unchanged (current and expected) interest rates and prices of products; (2) to allow for the effect on product prices of any expenditure of the increased wages;[2] (3) to examine the secondary

[1] The distinction, made in Chapter IX of my *Theory of Wages*, between unemployment due to the direct effects of a rise in wages, and unemployment due to indirect effects through "capital consumption," was therefore valid; but the analysis of both effects was very faulty.

The whole of that chapter ought to be withdrawn. Böhm-Bawerk was no substitute for mathematics!

[2] It is possible that very little of the increased wages may be spent before Monday week. If this is so, then (at this stage) the capital value of the entrepreneurs' assets will be reduced, unless they expect an increased demand from the labourers later. And such a reduction might induce them to economise.

effect on employment by this route, still assuming interest rates unchanged; (4) to examine the effect on the demand for money of these previous adjustments (interest still unchanged); (5) if we decide that the demand for money will be increased, to inquire whether that increased demand can be satisfied without a rise in the rate of interest. To answer these last questions will be a matter for monetary theory—but they do not look unanswerable.

Finally, it should be observed that in all our investigations we have never got beyond our first Monday. There is no reason why theory should be becalmed at that point; and it is clear that in order to give a complete answer to the problems we have raised, we ought to go on to see what happens on Monday week. However, time must go in its own order; and Monday week will have to be another story.

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INDIA IN THE WORLD DEPRESSION

1. *The Course of the Depression.*

TRADE fluctuations were not unknown in India before 1929; a hundred years ago there was a prolonged economic depression in Southern and Western India, and there have been some milder slumps since. But before 1870, India's connection with the rest of the world had been very imperfect, and price movements in Europe had no very active influence on Indian prices. Even the "Great" depression of 1873–96 had hardly any echo in India; while prices in Europe fell by 30 to 40 per cent., they remained fairly steady in India. This was perhaps largely due to the depreciating rupee exchange, but that was not the only cause. With the adoption of the gold exchange standard by India towards the close of the nineteenth century, the rupee was linked to the gold currencies of the West; and the regular steam-transport and the largely increased demand for Indian cereals, jute and cotton in the first decade of the present century brought India into closer contact with Europe and America. In other words, India became an integral part of World Economy; her primary products became essential for the feeding of men and machines in the West, and she became a steady market for the finished goods of European industries. In result, India has had a full share in the depression which started in October 1929; and her public finance as well as the private finances of her people came to be seriously affected by the slump.

The fall of prices was heaviest during the period from October 1929 to December 1930. Most of India's staples fell more than 40 per cent. within fourteen months. The Calcutta index-number (base 1914), which stood at 143 in October 1929, fell to 91 by September 1931—a fall of 36 per cent. The abandonment of the gold standard in September 1931 gave a temporary check to the slump, and there was a slight upward trend, but the downward course started again and by June 1932 the index-number fell to 87 per cent.—a fall of 40 per cent. Since then, prices remained fairly stationary until April 1934, when a slightly upward tendency commenced, partly due to the recovery programme in America. Thus, between April 1934 and February 1935, cereals

showed a rise of about 13 per cent., oil-seeds 19 per cent. and raw cotton 5 per cent. This, however, does not indicate any definite recovery; some prices have again sagged, and the general index is still not above 90—about 36 per cent. below the 1929 level.

The most notable feature of the slump in India is the wide disparity between the prices of primary products and finished goods. While rice slumped 52 per cent., oil seeds 55 per cent., raw jute 53 per cent., and raw cotton 51 per cent., between September 1929 and March 1934, cotton manufactures slumped only 29 per cent., metals 22 per cent. and sugar 26 per cent. during the same period. As India's exports are chiefly primary products, this disparity has affected the barter terms of trade. The price-index for exported articles fell by 46 per cent., while that for imported articles fell only by 24·6 per cent. Hence the rapid decline in India's balance of trade in merchandise from Rs. 80 crores in 1929 to Rs. 4½ crores in 1932. The total value of merchandise exports fell from Rs. 330 crores in 1929 to Rs. 132·6 crores in 1932–33. Conditions, however, have since improved slightly. In the last financial year, exports came to Rs. 154 crores and the balance of trade to Rs. 22½ crores. The disparity between agricultural and industrial prices is also becoming narrower.

2. *The Effects on the Depression.*

The immediate result of the slump was the breakdown of the country's purchasing power. The extent of this breakdown can be gauged from the fact that the value of the principal crops, which came to Rs. 1,018 crores in 1929, declined to Rs. 534 crores (by 52·5 per cent.) in 1933. It is true that a good part of the food crops raised in the country is consumed by the producer himself or exchanged in kind for services rendered; and 85 per cent. of our cultivated area is under food-crops. But the cultivator has to pay his land revenue and interest charges *in money*, and the burden of these fixed charges is crushing the agricultural classes to an extent unknown before. As a result, Government was compelled to make partial remissions of land revenue; rent disputes have increased; and the debts of agriculturists are hanging like a millstone round their necks.

It is well to recognise, however, that although India has been hit by the world depression, her position is not so bad as that of many agricultural countries which have concentrated on the production of one or two commodities needed for the world

market. To take some examples :—Brazil specialises in growing coffee, which accounts for 70 per cent. of its exports; Cuba produces chiefly sugar almost entirely for export, and its export trade is nothing without sugar; certain parts of Africa (*e.g.* Gambia, Senegal) are exclusively devoted to the production and export of groundnut. These lands depend entirely on world demand, and are sorely hit when the world markets fail. Take, for instance, the present position of sugar-producing countries. India imported 1 million tons of sugar in 1930–31; but she took only 264,000 tons in 1933–34. From Java alone her imports came to 809,000 tons in 1930–31; in 1933–34 it was only 194,000 tons. Such cataclysmic changes in trade have completely disorganised the economic condition of those countries. In this respect, India enjoys a much more stable position; in spite of the increasing demand for India's staples from outside during the last sixty years, she still remains more self-sufficient than any country in the world, except perhaps China. Only a small share of her total production (7 to 10 per cent.) is exported. Out of her total cultivated area of 228 million acres, 85 per cent. is under food-grains, and so far as India (excluding Burma) is concerned hardly any part of the produce of that area is exported. Cotton comes next with 14 million acres, and only 30 per cent. of that crop is exported. Jute and tea are raised on only 1 per cent. of the total cultivated area of India, and the bulk of both products (73 per cent. and 88 per cent. respectively) is exported. Fortunately for India, hardly any part of the country depends solely on one commodity. Her agricultural economy is broad-based on a diversified system of crops, a wise mingling of many subsistence crops with a few " money " crops. In this respect, even Australia and Argentina, Ceylon and Malaya, are more vulnerable than India. It must be admitted, however, that some parts of the country depend more than others on export trade; Bengal, with nearly all the jute area in the country, is therefore the worst exposed to the risks of world dependence, but even Bengal has only 6 per cent. of her total cropped area under jute; and rice, which accounts for 80 per cent. of the area, is nearly all consumed at home. Hence the comparative mildness of the trade depression in India, and the absence of such wholesale unemployment and impoverishment as has come over several other agricultural areas of the world. The Indian peasant has often been blamed for his disinclination to change over from food-crops to " money " crops; but this weakness has now become his strength. Nor is this the only matter in which

the instinct of the Indian peasant has served the country better than all the intricate reasoning of the economist and the administrator.

Thus, India has got on better than many other countries during the depression. Other lands have suffered both from the slump in prices and from the fall of demand from outside; India has chiefly suffered from the former. But, whether a country's produce is disposed of within the country or without, the price which the producer gets is the thing that chiefly matters to him. From 1929 the Indian ryot found his income dwindling and his burdens increasing; and in this respect the troubles of Indian agriculturists have been much greater than those of the large farmers in the U.S.A., Canada, Australia and Argentina, who have a greater staying power and easier means of recouping themselves. The Indian peasant, even in the best of times, lives on the verge of poverty; and most of the economic surplus from agriculture normally goes into the pockets of the landlord, moneylender, or Government. The depression has increased the inequalities of distribution between these partners in the agricultural business. The shares of the Government, the landlord and the moneylender are fixed, and thus the risks have largely fallen on the peasant, who is the least capable of bearing them.

The extent of suffering, however, varies between province and province and between the different classes of the community. Of the provinces, Bengal, and Behar and Orissa, are worst hit. The principal crops of these two provinces fell in value by 61 per cent. and 58 per cent. respectively between 1929 and 1933, while those of Bombay, U.P. and the Punjab have fallen only by 30 per cent., 35 per cent., and 36 per cent. respectively.

Of the different agricultural classes, those who cultivate with hired labour are worse hit than the small-holder who cultivates with his own labour and raises various kinds of produce. Landowners who get their rent in money are well off, but those who receive in kind have lost. The labouring classes have comparatively gained where there is ample employment, but in several areas there has been an increase of unemployment and under-employment. This is particularly the case in the jute areas of Bengal.

But all these agricultural classes have suffered much more than the industrial population of the country. Owing to a vigorous policy of Protection followed since 1925, an inordinate increase of revenue tariff in recent years, and the Swadeshi spirit preached by Mr. Gandhi, the demand for the

products of Indian manufactures has increased, and industrial production in the country has greatly expanded. In 1928–29, Indian mills produced only 1,893 million yards of cotton goods (out of a total available quantity of 3,830 million yards), but by 1933–34, Indian mill production increased to 2,945 million yards—an increase of 55 per cent. in five years. The progress of the sugar industry is even more striking. In 1925–26, there were only 41 sugar mills producing 91,399 tons of white sugar; in 1933–34, there were 128 mills producing 554,000 tons. Thus sugar production increased sixfold in eight years. Large progress has also been made in iron and steel, cement, woollens and several small industries, and in particular the provinces of Bombay and U.P. have largely benefited by these developments. While such progress has been going on in India, industrial production had been drastically curtailed in Europe and America, and no other country except Japan has made such rapid strides in industrial production as India has done during the last five years.

3. *How Financial Equilibrium was Restored.*

The depression affected the Government's finances at an early stage. By March 1931, the financial position showed unmistakable signs of dislocation. Customs duties being responsible for as much as 62 per cent. of the total tax-revenue of the Government of India, the heavy decline in foreign trade involved a sharp fall in customs revenue. Income-tax, which comes next in importance with 22 per cent. of the tax-revenue, was also seriously affected. The profits of companies assessed to income-tax, which averaged Rs. 53 crores for eight years ending March 1930, fell below 29 crores in 1932–33. As for the commercial departments, the revenue from railways and other non-tax revenue, which amounted to 30½ crores in 1923–24, fell to 19½ crores in 1929–30, and was only Rs. 5¼ crores in 1933–34. In March 1931, customs duties and income-tax rates were increased. The budget for 1930–31 closed with a deficit of Rs. 11½ crores, and the deficit expected for 1931–32 was Rs. 19½ crores. The declining price of Government securities disclosed the true state of Government's credit. The 3½ per cent. sterling stock, which stood at about 60 in April 1931, fell to 43½ in September. The gold standard was abandoned in September, following the example of Great Britain, and if this action had been accompanied by any inflationary measure, it would have resulted in the most disastrous consequences.

The Government of India fully realised the seriousness of the

situation. A committee for retrenchment of expenditure had already been appointed for suggesting lines of economy, and it worked in various sub-committees. On 29th September, 1931, Sir George Schuster placed a supplementary budget before the Assembly. For meeting the impending deficit, three lines of action were proposed: namely, retrenchment, an emergency cut in salaries, and fresh taxation. The expenditure of Government, both civil and military, was cut down; and the extent of the retrenchment will be clear from the fact that the defence budget, which stood at Rs. 55·10 crores in 1929–30, was brought down to Rs. 44·38 crores in 1934–35. The cut of 10 per cent. in the salaries of Government servants was much criticised at the time, but the future historian will perhaps consider it too mild a measure and will disapprove of its regressive character, the rate being uniform for all salaries between Rs. 40 and Rs. 7,000 per mensem. To make up for the fall in revenue, a surcharge of 25 per cent. was placed on import duties, excises and income-tax. In this way, expenditure was cut down and revenue was increased; and, in the words of the Finance Member, a solid barrier was erected against the possibility of India getting on to the slippery slope of inflation. In result the deficit for 1931–32 was reduced to Rs. 11¾ crores and the budget for 1932–33 closed with a surplus of Rs. 1½ crores. In both years, a liberal provision (nearly Rs. 7 crores) was made for the reduction and avoidance of debt, and therefore it must be pointed out that, so far as the budgetary income and expenditure were concerned, Government not only paid its way but also provided Rs. 3½ crores for the reduction of debt.

In the following year, 1933–34, customs duties again fell, due chiefly to the reduced importation of cotton piece-goods and sugar. In view of such a situation it was decided to provide only Rs. 3 crores for the reduction and avoidance of debt in 1933–34 and 1934–35. As a further fall was expected in customs duties in 1934–35, Government imposed, in April 1934, excise duties on sugar and matches and increased import duties on tobacco.

By these timely measures, the Government's budgets for the last three years have closed with comfortable surpluses, and the credit of Government has risen to an enviable position. This has enabled Government to carry out profitable conversion operations and to reduce the burden of debt. The floating debt of Government fell from 84 crores in September 1931 to 35 crores in 1933, and the gold and sterling backing of the rupee currency rose from 40 per cent. in 1931 to 60 per cent. in 1933. No

wonder that the $3\frac{1}{2}$ per cent. sterling paper, which stood at 46 in September 1931, rose to 89 by March 1933, and has soared up since to higher levels. It was 98 in January 1935.

It is but fair to state that this result was greatly due to the export of gold in copious quantities. In prosperous times, the yellow metal freely flowed into the country, and the peasant invested his savings in it. When hard days dawned again, he has had to part with it. The abandonment of the gold standard by India put a premium on gold, and enabled the country to sell its gold at a profit. In this way, much gold flowed out week after week, and an amount valued at Rs. 230 crores has left the country. It is disquieting to hear it, but we have to remember that it was not gold kept in the reserve of the Central Bank or of Government but barren metal lying in idle hoards. The gold exports enabled Government to obtain sterling in London for its needs, and thus Government was able not only to meet its dues in London, but to strengthen its reserves there. They have also enhanced the credit of India and have enabled Government to borrow at low rates of interest and to carry out conversion operations effectively and profitably. The export of gold helped greatly in maintaining the currency, and it came in good time to make up for the drying-up of the purchasing power resulting from the catastrophic fall in prices. Many of our politicians and even economists are uneasy about these gold exports, but their arguments are tinged with a crude mercantilism and need not be examined here. Between 1922 and 1931, India's net imports of gold came to about 43 million ounces; of this, about two-thirds has flowed out; rather, it has been converted into mobile purchasing power. As Francis Bacon said long ago, "Money [gold] is like muck, not good except it be spread." The Indian hoarder invested his savings in gold, but such reserves are for use in lean times. Such times arrived in 1932, and the hoards were turned to profitable use. It has enabled the country to keep up its purchasing power, and there might have been intense suffering had not the hoards been opened. How long can this go on? This is a question which we may now consider with advantage, and as the Reserve Bank has already begun to function, it is perhaps time for reconsidering the whole position.

The provincial governments have also pursued a policy of retrenchment during the period, and some provinces had to raise new taxes. In spite of such measures, several of them have had unbalanced budgets, and had to call for help from the central Government.

4. *The Effects of the Financial Measures on Purchasing Power.*

Indeed, the Government of India succeeded in balancing its budget, but it did so by unbalancing, to a considerable extent, the budgets of private persons. Government followed a rigid policy of budget equilibrium, but during a period of unexampled depression hardly any country has followed such a severely orthodox financial policy. Most countries made it their aim to maintain the internal purchasing power at any cost, and have done so by a liberal loan expenditure on public works. Even Great Britain has kept up her public works expenditure, but India has cut down such expenditure to the bone. It was perhaps sound finance but rather unsound economics. For a country whose public debt is so small and nearly all of it covered by valuable assets, even sound finance called for a more liberal loan expenditure, as it would have not only maintained purchasing power but increased the economic equipment of the country at little real cost. Instead, India followed a policy of drastic retrenchment. The extent of it can be realised from the following facts. During the three years ending 1929–30, the total works expenditure on railways amounted to Rs. 41 crores annually, and not less than Rs. 10 crores was spent by the provincial governments on civil works. After 1930, all this was cut down; hardly any new constructions were carried out on the railways in 1931–32 and 1932–33, and in the latter year the total works expenditure came to Rs. 6·42 crores, which was only a seventh of that of the years immediately preceding 1929–30. The provincial expenditure on civil works was also reduced by one-half, and expenditure not charged to revenue was cut down to 6 per cent. of that of the last pre-depression year. Thus Government's expenditure on railway works and civil works fell in three years from about Rs. 50 crores to Rs. 12 crores—a fall of about 75 per cent. in a very short time.

We have to remember in this connection that in India Government is much the largest single employer of labour, that from 50 to 75 per cent. of the outlay on most public works goes directly to labour, and that even the rest goes indirectly to labour, seeing that the stores are increasingly purchased within the country. Therefore, the severe retrenchment in such works must have resulted in a large increase of unemployment, and a substantial fall in consumption and purchasing power. Let us note also that this happened at a time when many plantations within the country were closing down and when large numbers of labourers were being repatriated from Ceylon and Malaya. It is difficult to estimate

the financial results of unemployment in the plantations of those countries, but we know that the amount of money sent by money order to their families by Indian labourers diminished largely during the period. Between 1927 and 1929, the average remittance by M.O. from those countries was Rs. 134 lakhs and Rs. 76 lakhs respectively. By 1933–34 these figures fell to Rs. 69 lakhs and Rs. 23 lakhs, a fall of 50 and 30 per cent. respectively.

What with such drastic fall in incomes and a wide disparity between the prices which the agriculturists pay and those that they receive—a disparity aggravated by high tariffs—a steady fall in consumption has taken place. We have not adequate statistical data for accurately measuring this decline in consumption, but a few facts will indicate the general trend. The quantity available for annual consumption can be measured by adding up local production and imports and by subtracting exports. In this way the annual consumption of cotton piece goods, sugar, salt and kerosene can be approximately estimated. The consumption of cotton goods has not fallen considerably since 1930, but the nature of the goods consumed shows a fall in the standard of living. Before 1914, out of every hundred yards of cotton piece goods worn in India, as much as 50 yards was of British manufacture and of good quality; but in 1933–34 only 7·6 yards came from Lancashire, 56 yards came from the Indian mills and about 28 yards came from the handloom. This is indeed gratifying from the point of view of Indian industrial progress, but it indicates a deterioration in standard of living, and it is noteworthy that the change-over to cheaper quality has not been accompanied by an increase of consumption. The consumption of white sugar, salt and kerosene is even more discouraging. The annual average *per capita* consumption of sugar was 7·7 lbs. during the five years ending 1930; but it has fallen since and was 5·8 lbs. in 1932–33—a fall of 24 per cent. But the consumption of *gur* [1] has not diminished, and this may be gratifying from the health point of view, but it is rather disconcerting to the sugar manufacturers and should be so to Government. The annual average consumption of kerosene and salt was 232 million gallons and 1,965,000 tons respectively during the ten years ending 1930, but in 1933 it fell to 213 million gallons and 1,884,000 tons, thus recording a fall in consumption of 8 and 4 per cent. from the ten-year average. These are all disconcerting not only to the economic reformer and the industrialist, but also to the Government treasury, which cannot thrive on a falling consumption. Things might have been worse, had it not

[1] Unrefined sugar.

been for the copious gold sales. To a great extent, therefore, it was the peasant's hoarding instinct that saved the country from the utter breakdown of consumption and from all its baneful consequences.

While deploring the fact that Government's retrenchment policy has aggravated the evils resulting from the depression, one must not forget that the strict financial policy pursued in these few years has raised India's credit to a high level among the nations, and has thereby prepared the ground for a constructive economic policy for the future. Countries that have deliberately kept their budgets unbalanced have had a false prosperity during these years, but they will have to swallow the bitter pill sooner or later, and some of them have already begun to taste it. The example of France is instructive in this connection.

5. *Measures for protecting Indian Industry and Trade.*

Nor has Government lost sight of some of the evils above dealt with. The rapid decline in foreign trade and the growing burden of fixed charges engaged the attention of Government at an early stage, and various measures have been taken (1) for safeguarding Indian industry and trade and (2) for relieving the burden of debt, rent and land revenue. The action taken under (1) falls under four heads. First, steps were taken for protecting Indian industry and agriculture from unfair foreign competition. Secondly, trade agreements were entered into with the two largest customers of India for safeguarding our export trade with them. Thirdly, Government gave active support to certain classes of producers in their efforts at restricting production and export. Fourthly, organised efforts were also made for the improvement of the quality and grading of India's produce and the adoption of better marketing methods.

After 1929, Japan made a powerful bid for the Indian market. Her low labour cost, great efficiency in production and business management, and not least the rapid fall of yen, enabled Japan to export large quantities of cotton piece goods, artificial silk, earthenware and porcelain, glass and glassware, boots and shoes, hardware and cutlery, apparel, haberdashery, toys, playing cards, bicycles and parts thereof, fruits, toilet requisites, and a variety of other goods. Her success in the Indian market has been remarkable. In the three years ending 1928–29, Japanese imports of piece goods averaged 308 million yards; but in 1929–30 and in 1932–33 it exceeded 550 million yards. The significance of this development can be realised when we note that while the share of the United Kingdom in the import trade in piece goods

fell from 82 per cent. in 1926–27 to 48 per cent. in 1932–33, the share of Japan rose from 13·6 per cent. in 1926–27 to 47 per cent. in 1932–33. The progress in regard to silk goods was phenomenal. In 1928–29, Japanese silk imports amounted to only 1·2 million yards; in 1933–34 it came to 8 million yards. In 1930, hardly any artificial silk yarn was imported from Japan; but last year, Japanese imports reached the first place, being 53 per cent. of the total artificial silk yarn imports into India. Such marvellous progress was to some extent due to the suitability of Japanese goods to the Indian market, but it was the systematic depreciation of yen that enabled Japan to capture the market. Soon after Great Britain went off the gold standard, Japan did the same, and from that time yen steadily depreciated, from 137 rupees (for 100 yen) in 1930–31 to 80 rupees in 1933. This gave a fillip to Japanese export trade and made Japan a redoubtable competitor in international trade.

The Government of India realised the trend of developments at an early stage. As early as March 1930, the *ad valorem* duties on cotton piece goods of non-British origin were increased by 5 per cent. to 20 per cent. In March 1931, another 5 per cent. duty was put on, and in September a surcharge of 25 per cent. was imposed on all import duties. Thus, while British piece goods paid 25 per cent. *ad valorem*, foreign goods paid 31¼ per cent. Matters got worse in 1932, with a rapidly falling yen, and as the result of a Tariff Board inquiry, the *ad valorem* duty on foreign goods was raised to 50 per cent. This was followed by the Safeguarding of Industries Act of 1933, which empowered Government to impose, by notification, such duties as it deemed fit on foreign imports whose prices were so abnormally low as to endanger the existence of any Indian industry. As the influx of Japanese goods continued unabated, high specific duties were imposed, in the Finance Act of 1933, on the uppers of boots and shoes, artificial silk goods and silk mixtures. In June 1933 the *ad valorem* rate on non-British cotton piece goods was raised from 50 per cent. to 75 per cent.

The trade agreement with Great Britain was signed in 1932. It involved the grant of preferences ranging from 7½ to 10 per cent., on various British goods, in return for similar preference for Indian produce in British markets. Japan feared that the Ottawa Agreement would adversely affect its trade with India, and this fear was aggravated by the further enhancement of the duties on non-British goods in June 1933. Japan retaliated by declaring a boycott on Indian raw cotton. Negotiations were

then started for a trade agreement with Japan, and this came to a successful conclusion early in 1934. Accordingly, the basic quota for the import of Japanese cotton piece goods was fixed at 325 million yards for one million bales of Indian raw cotton exported to Japan. If the raw cotton exported from India exceeded or fell short of one million bales, the Japanese imports would be raised or lowered accordingly.

Since 1931, South India has been flooded with cheap rice from Siam and French Indo-China. The influx of foreign rice is believed to have depressed prices further, and as a result of representations from the Madras Presidency, a small duty has been imposed on rice imports. Other protective measures are also under contemplation.

Rubber industry had been in a depressed state even before the slump, and the condition of tea industry became precarious after 1930. As the world's largest producer of tea, India has a substantial interest in tea prices, and Indian tea-growers took a large part in the formulation of the international tea restriction scheme, which involved a strict control of production and export. At the request of the Indian Tea Association, legislative sanction was given to this scheme by Government in 1932. India's rubber interests are much smaller; hardly $1\frac{1}{2}$ per cent. of the world's rubber is produced in India, and most of it comes from the Native States of Travancore and Cochin. But a large number of Indian labourers find steady employment in the rubber estates of Ceylon and Malaya, and thus the slump in rubber affected South India materially. Government was therefore glad to sanction the rubber restriction scheme in 1934, and appointed a local Board of rubber planters to watch India's interests in the scheme. Both these attempts at restriction have largely succeeded, and the prices of both tea and rubber have gone up considerably.

The depression has given a great impetus to the work of that most useful organisation, the Imperial Council of Agricultural Research. Since 1930 the Council has pushed through various important schemes for the improvement of Indian produce. The latest and perhaps the most hopeful of its activities is the setting up of an expert organisation for the improvement of marketing methods in the country. This will be of great value in the internal as well as external trade of India.

6. *Measures for adjusting Fixed Charges.*

Under the above category come the remissions of land revenue granted in most provinces, the revision of the basis of land revenue

now under consideration in the Punjab and elsewhere, measures for the scaling down and settlement of rural debt, and the establishment of land mortgage banks. This is too large a subject to be covered in this paper. Suffice it to say that in several provinces—the Central Provinces, the Punjab, the United Provinces and Bengal—legislation has been carried through for the settlement of rural debt. Indian States like Bhavnagar, Mysore, Cochin and Travancore have also taken action. Already some relief has been given to indebted agriculturists in many parts of the country, and more may be expected in the near future. It may be pointed out, however, that the settlement of existing debt alone will not solve the problem; a more humane system of rural credit has to be devised and put into operation if any lasting good is to come out of it.[1]

These are matters of provincial concern in India; yet the Central Government has also been active in watching and coordinating provincial measures. In April 1934, a conference of representatives from provincial Governments was held in Delhi for the consideration of rural debt relief and allied problems. The question of handloom weaving—the most important cottage industry of India—has also engaged the attention of the Central Government and funds have been allotted for its reorganisation. The efforts made by Government to enable sugar-cane growers to get their full share of the fruits of protection to sugar industry are also commendable. Perhaps the most gratifying of all these measures is the grant of over one crore of rupees made in the current year's budget to provincial Governments for rural development. Let us hope that this grant will be properly utilised.

7. *The Future.*

In the past, depressions have often been the cause of the reconstruction of worn-out economic systems and clarification of economic principles. The trade depression of 1873–96 led economists like Marshall to vigorous thinking and brought about readjustments of economic policy even in Great Britain, whose faith in *laissez-faire* was then unshaken. The present depression has already proved a more potent influence and everything indicates a thorough overhauling of both economic policy and economic theory. The insecurity and wastefulness of *laissez-faire* have been brought out in bold relief, and however much we may try to rehabilitate that old policy, it may not be possible to revive it. The Government of India has long been a firm believer in *laissez-*

[1] See *Rural Debt Relief in India* by the present writer (Madras University).

faire, although in practice it had to be modified owing to frequent famines and crop failures; but after the war, the policy has changed, and since 1929 a thorough reorientation has taken place in the attitude of Government towards economic activity. However, no drastic action has been taken in India; fortunately her economic difficulties have not been such as to demand any of the revolutionary measures taken in other countries faced with quite different problems.

In future, two principal aims, in my opinion, must be held before India in her programme of reconstruction. *First*, the safeguarding of her foreign trade, and *secondly* the increase of the standard of living at home. Although only a small part of India's production enters into her external trade, that part is essential for her financial stability, and in view of the surging waves of economic nationalism all over the world, and the increasing competition from better-equipped agricultural countries, it is important that every effort should be made to keep up her external markets. In this light the Ottawa Agreement and the Indo-Japanese Agreement have been in the right direction; and it is necessary to enter into similar agreements with others of our customers. In the interests of both internal and external trade, it is also necessary to improve our methods of production and marketing, so that our goods may become more acceptable abroad and our position in the world market may become more secure.

A rise in India's standard of living should be the central objective of our economic policy. It is the solvent, not only of our economic ills but also of our social and political ills; perhaps it will also solve in great part the economic problems of Western industry, for, with a rise in the Indian standard of living, there will not only be greater prospects for Indian industrial and agricultural production, but there will also arise a wider scope for the consumption in India of the products of Western industry. Let us remember that the persistently low standard of living of the Indian masses is to-day the greatest obstacle to the increasing consumption in India of Great Britain's better-grade goods.

It is often thought that a rapid industrialisation will remedy India's economic ills, but one cannot see how it could, seeing that hardly a million additional labourers can be employed in Indian industries even if most of the goods to-day imported are manufactured at home. The central problem of India is to increase the income of her masses, who are mostly agriculturists. For this purpose agriculture must be made more profitable, and suitable subsidiary industries must be provided in every locality, so that

the agriculturist may be enabled to supplement his income by using to capital advantage the abundant free time which he is now idling away. In this light the recent grant for rural development is one of the greatest things done by the Government of India for many years.

Circumstances are now favourable for a forward move. India's credit stands high among the nations, and loans can be raised at low rates of interest. A Reserve Bank has already been established for the management of currency and credit, and the new constitution may solve the political problem for the time being. India's place in the British Commonwealth of Nations is also a source of strength. These are all great assets, and, if properly used, will enable her not only to increase the economic welfare of her own teeming millions, but also to help substantially in the world's painful struggle for recovery.[1]

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[1] Rupee = 1*s.* 6*d.*; Rs. 1 crore = £750,000; Rs. 1 lakh = £7,500.

INCOME TAX AND THE "DOUBLE TAXATION" OF SAVING

§ 1. THERE has long been a consensus of opinion among the majority of economists that a general income tax on income received, irrespective of whether it is saved or spent, involves double taxation in the sense of taxing the same thing twice over and therefore differentiates against saving.

The *locus classicus* for this doctrine is to be found in the following passage from Mill [1]: "Unless, therefore, savings are exempted from income tax, the contributors are twice taxed on what they save, and only once on what they spend. A person who spends all he receives, pays 7*d.* in the pound, or, say, 3 per cent., to the tax and no more; but if he saves part of the year's income and buys stock, then in addition to the 3 per cent. which he has paid on the principal, and which diminishes the interest in the same ratio, he pays 3 per cent. annually on the interest itself, which is equivalent to an immediate payment of a second 3 per cent. on the principal. So that while unproductive expenditure pays only 3 per cent., savings pay 6 per cent.: or more correctly, 3 per cent. on the whole, and another 3 per cent. on the remaining 97. The difference thus created to the disadvantage of prudence and economy is not only impolitic but unjust. To tax the sum invested and afterwards to tax also the proceeds of the investment is to tax the same portion of the contributor's means twice over." The point is made in a more precise form by Professor Pigou [2]: "An income tax . . . differentiates against saving by striking savings both when they are made and also when they yield their fruits. Thus a general permanent income tax at the rate of x per cent. strikes the part of income that is spent at this rate. But, if £100 of income is put away for saving, it removes £x from it at the moment and, thereafter, removes also some part of the fruits yielded by it. . . . For purposes of illustration . . . let us suppose that the saver's investment is a permanent one, so that the principal is never withdrawn. Then the secondary taxation amounts every

[1] J. S. Mill, *Principles of Political Economy* (ed. Ashley), pp. 813–14.
[2] Pigou, *A Study in Public Finance*, p. 136.

year to $\frac{x}{100}$ths of the fruits of the £ $(100 - x)$ that are actually turned into the investment. The total effective tax is therefore $\left[x + \frac{x}{100}\ (100 - x)\right]$; that is, $x\left[2 - \frac{x}{100}\right]$. Thus the effective rate on saved income is practically double the rate on spent income when the tax is small, and substantially more than equal to, though less than double, that rate when it is large." [1]

The case may be put in its simplest form as follows: a man has an income of £1000, of which he saves £500 and spends £500. The whole income is then subjected to a tax of 10 per cent. The £500 which he spends now becomes £450 and the £500 which he saves also becomes £450, which when invested at 5 per cent. yields £22·5. But the £22·5 interest is also taxed 10 per cent. and thus becomes £20·25. Now since the present value of a perpetual annuity of £20·25 capitalised at 5 per cent. is £405, it follows that the man who spends the whole of his gross income of £1000 will pay only £100 in income tax, while he who divides his gross income of £1000 equally between spending and saving will in effect be taxed to the extent of £100 *plus* £45, the latter sum representing the decrease in the capital value of his annuity. The doctrine of the double taxation of saving has recently been restated with great emphasis by Professor Einaudi,[2] and by Dr. Benham in his interesting "Notes on the Pure Theory of Public Finance." [3] The contrary view has been put forward by Professor De Viti de Marco,[4] Professor Cannan,[5] Sir Josiah Stamp,[6] and Mr. D. Weaver.[7] The present article is in harmony with the main conclusion of the latter group of economists, but adopts a different line of approach to the problem.

§ 2. At the outset there exists the difficulty that many different meanings are commonly attached to the phrase "double taxation" in this connection.

We will consider in the first instance the view that the introduction of a general income tax will cause an initial fall in capital

[1] The main drift of Professor Pigou's analysis, to which the passage cited above is the prelude, is not dependent upon the assumption that a general income tax produces "double taxation" of saving. What he is there discussing is the effect of taxation on minimum aggregate sacrifice as defined by him.

[2] L. Einaudi, "Contributo alla ricerca della ottima imposta" in *Annali di Economia,* Vol. V, July 1929.

[3] *Economica,* November 1934.

[4] De Viti de Marco, *Pricipii di Economia finanziaria* (1934), pp. 198–206.

[5] ECONOMIC JOURNAL, 1921, p. 213.

[6] Stamp, *The Principles of Taxation* (1929), p. 58.

[7] ECONOMIC JOURNAL, September 1932.

values owing to its supposed effects of hitting saving twice—once when it is made and again when the income from the saving is received.

Let us assume a tax system such that either all income saved and therefore not spent on consumption goods is exempt from taxation, or else that all income from saving is free from taxation. The question arises whether the introduction of a general permanent income tax on all income, whether saved or spent and from whatever source, will involve a depreciation in the value of investment that has already been made. At first sight it would appear that this must be the case, but closer consideration shows that it does not necessarily follow. For there is no reason to suppose that the general income tax will increase the gross rate of interest in the market, *i.e.* the rate which the investor can get by selling out his investment and going into something else. If the gross rate which the borrower can afford to pay the lender remains unchanged, it is true that the lender will receive a smaller net income after the tax than before, but the capital value of the right to that income will be exactly what it was prior to the imposition of the tax. This is equivalent to saying that the net rate of interest will be capitalised at correspondingly more years purchase. The moment the tax is imposed all people find themselves identically situated in regard to their incomes from investments; and the owner of the right to £100 per annum subject to tax will not sell his right for less than the capital sum necessary to produce an income of £100 subject to tax in future. There cannot be two values for the right to the same net income at one and the same time.

It is still more abundantly clear that once the general income tax is in existence there cannot be a further continuous depreciation in the value of current investment such as is contemplated by many upholders of the doctrine of double taxation. If a man has saved £100 and placed it on deposit in his bank the value of his holding continues to be £100, irrespective of whether he pays no income tax at all, or income tax at the rate of 2*s*. 6*d*. or 5*s*. in the £. The opposite view would lead to the absurd result that the investment of £100 is no longer worth £100 the day after it has been made, but some smaller sum.

It would seem, therefore, that the traditional doctrine has confused the issue by applying the capitalisation method, which is valid for a differential tax, to a general and universal tax. If the saver could exchange his investment for some other form of

income-yielding property which did not pay tax, the argument would be valid, and the exchange value of the investment would be lower than that of other property yielding an equal net income. But this, by definition, is impossible under a general income tax. He cannot even escape by investing it in his own person, for the extra income accruing from his greater efficiency will in turn be subject to tax. The present exchange value (and this is what comes into question here) of an investment which is expected to yield a given income in the future is neither more nor less affected by the existence of a tax on that income than the exchange value of anything else that yields an income.

Professor Ricci [1] has attacked the capitalisation method on its own ground, by arguing that the general tax, which lowers in a given proportion the income from all saving, must also be deemed to lower, in the same proportion, the rate of interest in terms of which the annuities are to be capitalised. If the annuities are to be taken "net," after deduction of tax, so must the rate of interest, and if this is done the capitalised value of the new annuity remains exactly the same as before. Whatever opinion is held of the validity of this argument it does at least show that the whole thing is merely a matter of formulation—a verbal device which proves nothing.

Moreover, if we take a wider view of the problem we can see that there is no justification for distinguishing between the income from saving and the income from any other source, *e.g.* effort, when considering the effects of a general income tax. It is obvious that anything which is taxed at all is to that extent discriminated against, but this truism is not relevant to the question whether to tax year by year saving as well as the fruits of saving (to use Professor Pigou's phrase) is to tax the same income twice over and therefore to differentiate against it in contrast to other sources of income. If the saver must deduct the capitalised value of the tax from the present value of his saving (represented as an income-earning asset), why not the worker also from the present value of his future wage income? The worker too is discriminated against by being taxed on his income, and, assuming parity of tax burden, he is as much discouraged in putting forth his effort by the subjection of his income, now and in the future, to taxation as the saver.

We conclude, therefore, that the method of treating income from investment as though it were in some way isolated from all other forms of income, and then deducting the capitalised amount

[1] *Riforma Sociale*, March–April, 1928.

of an income tax from the present value of the expected annuity, is not legitimate.

§ 3. On a narrow definition of income it can be held that a general income tax leads to "double taxation" of income. Thus some recent writers [1] who have discussed this problem have adopted as their starting-point Professor De Viti de Marco's definition [2] of income as "the sum total of goods of the first degree (consumers' goods) annually produced and consumed." With this definition they are able to show without difficulty that the taxation of income saved as well as income spent involves taxing the same income twice over.[3] Thus Dr. Benham says [4]: "In real terms it is double taxation to tax both an instrumental good and the consumers' goods which it produces." It may be pointed out, however, that this conclusion is inherent in the particular definition of income adopted; it would not follow from the alternative definition of income used by Marshall.[5] Interpreted in this way the phrase "double taxation" of income is merely tautological.

§ 4. Most of the protagonists of the doctrine of the double taxation of saving contend that, unless either saving itself or the fruits of saving are exempted from a general income tax, there is an unfair discrimination against saving which would be avoided under an ideal or "optimum" system of taxation.[6] Here "double taxation" is used as a stick to beat the income tax on the ground of unfairness. There are, however, a number of strong reasons which may be urged against this contention:

In the first plea, the State incurs additional costs and renders additional services to the property-owners, which it does not incur or render in respect of the citizen who is expending his income on consumable goods. It is therefore right that the State should receive a contribution from the property-owner, whose income is safeguarded by the State, to cover these costs and services.

[1] Notably L. Einaudi, *op. cit.*, pp. 85–91.

[2] De Viti de Marco, *op. cit.*, p. 192.

[3] It is true that De Viti himself strenuously denies this conclusion, but it can hardly be said that his disproof is convincing in the light of his own definition of income.

[4] Benham, *loc. cit.*, p. 441.

[5] "The labour and capital of the country, acting on its natural resources, produce annually a certain net aggregate of commodities, material and immaterial, including services of all kinds. . . . This is the true net annual income, or revenue, of the country, or the national dividend."—Marshall, *Principles of Economics* (8th ed.), p. 523.

[6] Dr. Benham, however, is of the opposite opinion on this aspect of the problem. Cf. *loc. cit.*, pp. 455–8.

Secondly, it is legitimate to assume that the State, through the exercise of its general function as a co-operating factor in the productive organisation of the community, and through the expenditure of the revenue which it receives from the taxpayers, will increase the productivity of the capital accumulated by the action of the savers above what it would have been in the absence of the State. The State is accordingly entitled to a share in this additional income.[1]

Thirdly, in practice all tax systems combine indirect with direct taxation; the bulk of the latter falls on those who purchase consumers' goods. He who spends the whole of his income will thus contribute more by way of direct taxation to the State than he who saves part of it, inasmuch as the latter does not pay indirect taxation on the amount which he saves.

Fourthly, the saver has immediately a new asset in the shape of his savings as a capital sum, in terms of its present exchange value, which is valuable to him not merely, and often not principally, as a source of future income, but as a protection and reserve against emergencies which may at any time befall him. There also come into question the prestige value of accumulated wealth, the desire to bequeath large sums at death, the knowledge of the power that derives from the possession of wealth, etc. Here again the capitalisation method is defective, because it looks at income only and fails to take account of the great importance of these factors, which make the benefits obtained from saving something very different from the mere present value of a future income capitalised at the current rate of interest. The act of saving is a form of disposal of real income—a method of utilising income which yields at once a direct utility in the shape of the increment to security or to accumulation of wealth, in contrast to the alternative utility that would be gained by spending that part of income on consumable goods and services. The saver has a capital asset which has an independent value to him distinct from the capitalised value of the expected annuities. In other words, the desire to save cannot be measured by or equated to the simple difference, calculated on an actuarial basis, between the value of present and the value of future goods.[2] When later on interest is received the

[1] The two points set out above are well brought out by Dr. Benham, *loc. cit.*, pp. 457–8. Cf. also, on the first point, De Viti de Marco, *op. cit.*, pp. 203 and 206.

[2] It is for these reasons that the writer ventures to dissent from Professor Pigou when he says: "For the only ultimate advantage a man gets from saving is the return from his investment that he and his heirs can afterwards spend." (Pigou, *op. cit.*, p. 139.)

owner enjoys an additional income which he obtains without further toil or effort on his part.[1]

Hence when the State taxes both savings and the fruit of savings it is *not* taxing the same thing twice over. On the contrary, to exempt savings from taxation would be to differentiate unfairly against the non-savers, whose burden of taxation would become correspondingly heavier.

§ 5. Distinct from the main issue, but often confused with it, is the question of the indirect effects of the taxation of savings—notably the effects on the volume of accumulation and the rate of interest. It is frequently held that, as a tax on gained income diminishes the effective return from all savings, *e.g.* a 20 per cent. tax reduces a 5 per cent. yield to 4 per cent., this will lower the amount of saving and cause the rate of interest to rise, to the detriment of the community.

This view takes for granted (*a*) that the supply curve of savings over the relevant range is inclined positively, (*b*) that, on balance, the whole body of savers regard as the demand price for their savings, not the interest rate as it stands, but the "net" interest after deduction of income tax.

(*a*) The broad problem of the relation of the supply of saving to the rate of interest obviously falls outside the scope of the present note. But it may be observed that the theoretical case for a positive relationship between the rate of interest and the rate of saving is by no means clear, in view not only of the divergent effects of changes in the rate of interest on different categories of savers, but also of the different reasons for which the rate of interest may vary; while in the nature of things there can be no satisfactory inductive evidence (*pace* the recent valiant attempt of Professor Douglas)[2] owing to the impossibility of finding a long and continuous period of full employment over which to make observations.

(*b*) It is clearly possible that a tax on income saved as well as income spent may decrease the amount of saving through its effect on the *power* to save, but it is not certain that this will be the case. If the revenue required is not obtained by a general tax on all incomes, it must presumably be raised by heavier taxation in other directions (if saved income is to be exempted), and the alternative taxation may have more serious indirect effects and

[1] If the capitalisation argument is rejected there is much force in the contention that whereas the saving takes place in one year, the income therefrom accrues in subsequent years and cannot properly be regarded as an integral part of the original income which was taxed at the time that it was received and saved.

[2] Paul Douglas, *The Theory of Wages*, 1934, pp. 460–79.

may impinge more heavily upon the surplus of income available for saving.

Apart from this aspect the main issue is whether a general income tax diminishes the volume of saving because it lessens the *will* to save. If the case urged in the earlier portion of this note in opposition to the view that a general income tax involves double taxation of saving and, *therefore*, discriminates against it, can be regarded as established, a large part of the usual reasons for holding that saving is affected differentially falls to the ground. For we have argued that a general income tax does not hit saving as such any more severely than it hits all other forms or sources of income. That there would be some effect in the direction of encouraging saving as compared with spending if saving were exempted from taxation is doubtless true, in so far as an income tax causes a different distribution of income between present goods and future goods from that which would come about under, say, an expenditure tax; but it is no more true than the proposition that investment in the worker himself, and the intensity of his effort, would be encouraged if his income now and in the future were similarly exempted. It is frequently held that an expenditure tax is neutral as between saving and spending, while an income tax discriminates against saving. But "neutrality" and "discrimination" are slippery terms to use in connection with a tax system as a whole; and if, as is shown in § 4 above, there are strong grounds (quite apart from distributional consideration) for making savers, as such, contribute to the revenue of the State; there is a serious ambiguity in the phrase that to tax saving discriminates against saving as opposed to consumption. An expenditure tax too is not neutral in this respect when all factors are taken into consideration, and might with more justice be said to discriminate *in favour* of saving.

The actual extent to which, in any case, income tax does discourage saving is probably much less than is commonly assumed. Even large changes in the tax have only a small effect on the "net" rate after deduction of tax; thus an increase of 2*s*. in the £ has only the result of lowering a "gross" rate of 5 per cent. to a "net" rate of 4·5 per cent. How many savers are likely to be influenced in their desire to save by such a decrease in incentive? Not the joint stock companies whose reserves constitute so large a proportion of the total volume of saving, nor the wealthy who save automatically, nor all those other categories of savers who are more concerned with security or accumulation than with whether the rate of interest is to be ½ per cent. more or less.

Finally, it may be pointed out that those who hold that the will to save is seriously affected by a general income tax seem to have been misled by their own predilection for using examples based on the hypothesis of permanent annuities and of rates of interest established for all time. In real life people are not concerned with perpetual annuities, nor does anyone know what will happen either to the rate of interest or to the rate of income tax, even in the comparatively near future.

§ 6. It is important to observe that the whole of the foregoing reasoning has been based on the classical assumption that there is full employment, and that the rate of interest always adjusts itself completely and continuously in such a way that full employment is maintained.

The situation would be radically altered if this assumption were to be removed. Under certain conditions a case could even be made out for special discriminating taxation against saving.

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THE DEMAND CURVE FOR BEEF AND VEAL IN GREAT BRITAIN

1. RECENT measures in support of the market for live-stock emphasise the importance of determining the degree of interdependence between price movements and changes in the quantity of beef consumed. In the following analysis the technique of curvilinear correlation developed by Mr. Mordecai Ezekiel will be applied to determine the form of the demand curve for beef, and displacements due to the operation of the generating economic forces.

2. The latter may be conveniently classified into two groups according to the direction of the resultant movements in the demand schedule. The first group, comprising changes in the value of money, causes the curve to rise and fall, while the second group, causing horizontal displacements in the curve, comprises changes in taste, in population, purchasing power of the consumer, and the numerous factors, other than changes in the unit of value, affecting the demand for a commodity.

3. Over any time-interval changes in the actual amount consumed and in the corresponding price of a given commodity are functions of the shape and displacement of the demand curve. In the absence of displacement, recorded quantities and prices of the commodity are co-ordinates of the actual demand curve; but when the latter changes position owing to the forces already classified, recorded quantities and prices will be functions of both the direction and degree of displacement, and the shape of the curve.

4. To eliminate vertical and lateral movements it is necessary to obtain indices of the value of money and of the real purchasing power of the consumer. In Great Britain changes of the first type have predominated since the war and have had repercussions on the second group of changes. An obvious index of changes in the value of money is provided by the Sauerbeck wholesale price index. For changes in the real purchasing power of the nation it was originally intended to use unemployment percentages, but after removal of the effect of changes in the value of money, except for two observations, the lateral displacement was negligible, probably because the price index, for reasons already

mentioned, is also closely correlated with changes in the purchasing power of the consumer.

5. At this stage some difficulties attaching to the available statistical data may be conveniently discussed. No single index, either of the retail, or of the wholesale price of beef, is available. For the former it would be necessary to combine different cuts and qualities of beef, in such a way as to form a representative index of movement in the retail price of beef, and to embrace all the post-war years. For the latter it would be necessary to combine a number of quotations for different qualities of home-produced and imported beef covering the same period of years. The Cattle and Beef Survey published by the Imperial Economic Committee shows that between 1921 and 1929, the wholesale prices of all types of beef moved in similar directions, and that movements in the price of prime beef appear to be representative of the general movement. The Sauerbeck price relative for prime beef has therefore been selected as representative of movements in the price of beef since the war.

6. There appears to be no continuous sequence of comparable figures of annual supplies of beef in Great Britain for the period 1921–32. To overcome this difficulty relative figures have been employed, and an index of volume with the year 1921 as base has been built up from the year to year changes in the absolute figures of the various estimates of total supplies. For convenience of working, the figures for Great Britain include veal as well as beef. The absolute and relative changes in supplies of beef and veal, in the Sauerbeck price relative for prime beef, and in the general price index-number between 1921 and 1932 are shown in the table on p. 495. Figures for 1921, 1922 and 1923 relate to the United Kingdom.

7. The method of graphical curvilinear correlation is fully discussed in *Methods of Correlation Analysis* by Mordecai Ezekiel and will not be described in great detail. Further reference may be made to the following articles published in the *Journal of the American Statistical Association*, of which some are developments of the original ideas of the above writer :—

(1) " A Simplified Method of Graphic Curvilinear Correlation," by L. H. Bean.

(2) " Application of a Simplified Method of Correlation to Problems in Acreage and Yield Variations," by L. H. Bean.

(3) " The Use of Trends in Residuals in Constructing Demand Curves," by L. H. Bean and G. B. Thorne.

Calendar Years.	Supplies of Beef and Veal, 1000 tons.	Proportionate change from preceding Year.	Index of Volume of Supplies. 1921 = 100.	Sauerbeck Index.	
				Prime Beef relative. 1921 = 100.	All Articles. 1921 = 100.
1921	1,220	—	100	100	100
1922	1,290	105·7	106	77	84½
1923	1,350	104·7	111	69	83
1924	1,370 [1]	101·5	112	71	90
1925	1,390	101·5	114	70	88
1926	1,400	100·7	115	64	81
1927	1,410	99·3 [2]	114	61	79
1928	1,390	98·6	112	64	77
1929	1,370	98·6	111	62	74
1930	1,350	98·6	109	64	63
1931	1,340	99·3	108	58½	54
1932	1,260	94·0	102	56	52

Sources.—The Report of the Reorganisation Commission for Fat Stock for England and Wales (1934), Report on the Marketing of Cattle and Beef in England and Wales (1929), Report on the Trade in Refrigerated Beef, Mutton and Lamb (1925), published by the Ministry of Agriculture and Fisheries. Calendar years are obtained by taking 5/12 of one meat year and adding 7/12 of the succeeding meat year (ending 31st May).

[1] Not strictly comparable; too low on preceding basis and too high on the succeeding basis of computation.

[2] The figure is the estimate for 1927 on the preceding basis of computation.

(4) "The Application of the Theory of Error to Multiple and Curvilinear Correlation," by M. Ezekiel.

(5) "Standard Error of a Forecast from a Curve," by H. Schultz.

(6) "Statistical Correlation and Theory of Cluster Types," by Ragnar Frisch and Mudgett.

(7) "The Analysis of Co-variance," by A. L. Bailey.

(8) "Some Characteristics of the Graphic Method of Correlation," by W. C. Waite.

(9) "Further Remarks on the Graphic Method of Correlation," by Ezekiel and Waite.

Numbers 1 and 4 appeared in 1929, number 2 in the December, number 5 in the June number in 1930. Numbers 6 and 7 appeared in 1931 and numbers 3, 8 and 9 were published in 1932.

8. The fundamental principle is that of successive graphical approximation to the final results. It is claimed that the process is legitimate wherever the mathematical functional relationship between the dependent and independent variables is unknown, in that graphical approximation is more flexible and less misleading than the arbitrary selection and fitting of a mathematical function suggesting a known relationship between the variables. If a given but unknown functional relationship exists, the

maximum amount of information [1] yielded by the data is obtained by fitting the formula representing this relationship by the method of maximum likelihood. Other methods of representing the relationship approach this maximum amount in proportion as they approach the true functional relationship. It follows that where graphical approximation approaches the actual functional relationship of the variables it approaches a limit set by the data, and that at a certain point no closer fitting to the original data can be obtained by the method. This point is determined when the sum of the squares of the deviations of the data from the final freehand curves are at a minimum. Charts 1 and 2 below show some

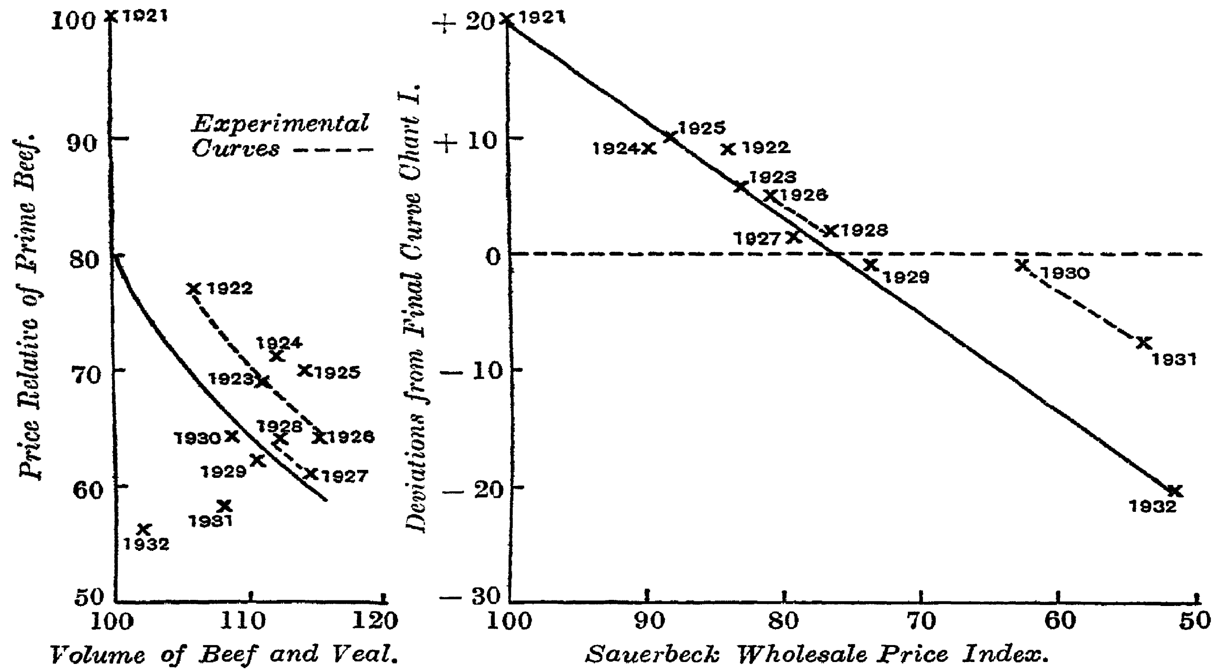

Chart 1. *Chart* 2.

of the experimental positions and the final positions of the freehand curves.

9. On examining the table (p. 495) it will be seen that in the years 1922, 1923, 1926 and in the years 1927 and 1928 wholesale prices are roughly unchanged and therefore do not influence movements due to changes in the price of beef. If these be joined up by dotted lines (slightly adjusted for movements in wholesale prices), two lines are obtained with roughly the same slope and a tendency to a higher slope where wholesale prices are higher. They will also be seen to fall at certain distances from each other, showing the influence of forces displacing the demand curve. From these

[1] *Statistical Methods for Research Workers*, by R. A. Fisher.

sections of curves with wholesale prices eliminated an experimental curve is drawn. Deviations from this curve represent displacements in the demand curve and should therefore correlate with indices presumed to cause such displacement. In chart 2 the deviations are plotted against wholesale prices, and it appears these account for the bulk of the displacement. Having completed the curve in chart 2, readings from the curve are used to correct the original data for movements in the wholesale index-number. The corrected data are plotted against the supplies of beef and the experimental curve corrected where found necessary. Such corrections are carried to chart 2, which is amended if necessary and the process is continued until the deviations of the original data from the curves without reference to sign are a minimum.

10. In chart 2, with the exception of the years 1930 and 1932, there appears to have been very little lateral displacement in the demand curve. The fact that the line joining the points for 1930 and 1931 runs parallel to the final curve suggests that there was an increase in demand (lateral movement to the right) in 1930, followed by the usual money displacement in 1931, and an equal decrease in demand (or lateral movement to the left) in 1932, thus restoring the curve to its former relationship to changes in the price level. The increase in demand in 1930 may be due to the fact that although employment deteriorated in 1930, prices were falling precipitately, and the additional purchasing power released by the lag in income and wage reductions more than offset the effects of increased unemployment, and resulted in an increased demand. In 1932 the effects of the cuts in salary and unemployment rates and the introduction of a customs tariff reduced general purchasing power, thereby causing a reduction in demand. Other parallel movements which can be discerned in the chart may also be correlated with movements in prices of competing food-stuffs, and the numerous forces responsible for lateral displacement of the curve.

11. The table on p. 498 gives the original data, figures as computed from the curves, and the deviations of the actual from the computed prices of prime beef.

12. As with most economic time series there is correlation between the deviations from the estimate and deviations from the average of the estimate, so that no useful purpose can be served by computing the standard error of estimate. If, however, owing to abnormal forces causing the lateral movements in 1930 and 1932, the observations in 1930 and 1931 be assumed to be outside the universe, this correlation is reduced to — 0·074, which is a negligible

factor for so small a sample. The standard error of estimate in this case is 1·16, or when corrected for the smallness of the sample, 1·50,[1] so that although the observations in 1930 and 1931 fall outside the range of three times the standard error of estimate, none of the other observations falls beyond twice the standard error of estimate. The index of multiple correlation, which when corrected for size of sample is 0·9925, does not confirm the superiority of the curve over the straight line.

Year.	Volume of Beef and Veal.	Wholesale Price Index.	Price of Prime Beef as Computed.	Price of Prime Beef as Observed.	Computed Price adjusted to Average of Observed.	Deviation of Actual from Computed.
1921	100	100	100	100	101·6	−1·6
1922	106	84½	76	77	77·6	−0·6
1923	111	83	69	69	70·6	−1·6
1924	112	90	74	71	75·6	−4·6
1925	114	88	70	70	71·6	−1·6
1926	115	81	63	64	64·6	−0·6
1927	114	79	63	61	64·6	−3·6
1928	112	77	63	64	64·6	−0·6
1929	111	74	61	62	62·6	−0·6
1930	109	63	54	64	55·6	8·4
1931	108	54	48	58½	49·6	8·9
1932	102	52	56	56	57·6	−1·6
Totals	1,314	925·5	797	816·5	816·2	−0·3
Average	109·5	77·1	66·42	68·04	68·02	−0·03

13. Estimates of the volume of beef and veal consumed in 1933, made from the foregoing analysis of the shape and movement of the demand curve, exclusive of the figures for 1930 and 1931, will be shown to be within the expected limits, thus supporting the assumption of the exceptional lateral movement of the curve in these years. It is therefore suggested that, provided there be no good reason to expect violent changes in the demand for beef, due to a sudden change in taste, to an intensive economy drive, or sudden change in the standard of living, the foregoing analysis can be employed to estimate the effect on the price of beef of

[1] In correcting the standard error of estimate the formula $\bar{S}^2 = \frac{\Sigma(y - y')^2}{n - m}$ has been employed where y' = computed and y the observed values of the dependent variable, n the number of observations and m the number of degrees of freedom. For the latter, it has been assumed that the demand curve (chart 1) is parabolic, requiring two degrees; the movements due to changes in the value of money are taken to be linear, requiring one degree of freedom, and the average requires the fourth degree of freedom. The index of multiple co-correlation is adjusted by the formula $\bar{P}^2 = 1 - \frac{(1 - P^2)(n - 1)}{n - m}$.

changes in consumption due, for example, to restriction of imports, and changes in the value of money.

14. The relationship between the price of beef, wholesale prices, and supplies of beef and veal in Great Britain, appears to be that the curve falls $1\frac{3}{5}$ points for every fall of 2 points in the wholesale price index. In the table below, the position of the curve is shown for various combinations of the wholesale index, and the price of beef. The table is given in greater detail for values within a certain range of present-day values, and is based on readings from the curves, excluding the years 1930 and 1931. This means that instead of raising the curve 1·6 units by equating the averages shown in paragraph 11, the curve is equated to the average of the ten years excluding 1930 and 1931, and is lowered by 0·1 unit. Such a table can only be used on the assumption that the conditions prevailing over the period to which the data refer are still valid. The further the table is extended from the range of data covered by the analysis, the less reliable are the results.[1] Absolute figures of supplies of beef and veal have been related to the average of the computed index of volume for the period 1927–32. Prices of prime beef are considered as the dependent variable, and the limit of the range of observations is 52 for wholesale prices, and 115 for the volume of beef and veal.

15. It is interesting to employ the table to estimate supplies of beef and veal in Great Britain in 1933, a year not covered by the data. On the base 1867–77 equals 100, the *Statist* index-number was 79, and the prime beef relative 103 in 1933. Expressed on the base of 1921, these become 51 and 53 respectively. Reference to the table shows that supplies were slightly below 1,280,000 tons, an estimate which is about $1\frac{1}{2}$ per cent. below the final figure. If the final figure for 1933 be used to estimate the price of prime beef the result is 49, showing a deviation of 4 points, which is within thrice the standard error of estimate, as is pointed out in paragraph 13. In 1934 the Sauerbeck index rose to 82, and the price of prime beef fell to 98. On the 1921 basis the table must therefore be entered at 53 and 50 respectively, giving a figure for the total supplies of roughly 1,310,000 tons.[2] Although the error

[1] The standard error of estimate is, of course, relatively higher in the lower values of the dependent variable than in the upper, and represents the average standard error of estimate throughout the range of independent variables. Professor Schultz shows that the actual standard error of estimate increases with the distance of the independent variables from the centre of the range of values, so that the greatest accuracy of the estimate is in the central values of the independent variables.

[2] Since the price of prime beef is the dependent variable, the table should not be used to estimate supplies of beef and veal, and no standard error of such an estimate can be given.

due to lateral displacement is cumulative it appears to have been negligible except under conditions of violent change such as occurred in 1930 and 1931, and there seems no reason to allow for lateral movement in this estimate.

Consumption of Beef and Veal in Great Britain. / Wholesale Price Index. Sauerbeck. 1921 = 100 = 155.	Computed Index of Volume on base 1921 = 100, and also in thousands of tons (average 1927–32 = 1,353,000 tons = 109).								
	1,240 100	1,265 102	1,290 104	1,315 106	1,340 108	1,365 110	1,390 112	1,415 114	1,440 116
	Sauerbeck Price relative for Prime Beef. 1921 = 100 = 195.								
100	100	96	92	88	86	84	82	80	78
95	95½	91½	87½	83½	81½	79½	77½	75½	73½
90	91	87	83	79	77	75	73	71	69
85	87⅙	83⅙	79⅙	75⅙	73⅙	71⅙	69⅙	67⅙	65⅙
80	83	79	75	71	69	67	65	63	61
78	81⅓	77⅓	73⅓	69⅓	67⅓	65⅓	63⅓	61⅓	59⅓
76	79⅔	75⅔	71⅔	67⅔	65⅔	63⅔	61⅔	59⅔	57⅔
74	78	74	70	66	64	62	60	58	56
72	76⅓	72⅓	68⅓	64⅓	62⅓	60⅓	58⅓	56⅓	54⅓
70	74⅔	70⅔	66⅔	62⅔	60⅔	58⅔	56⅔	54⅔	52⅔
68	73	69	65	61	59	57	55	53	51
66	71⅓	67⅓	63⅓	59⅓	57⅓	55⅓	53⅓	51⅓	49⅓
64	69⅔	65⅔	61⅔	57⅔	55⅔	53⅔	51⅔	49⅔	47⅔
62	68	64	60	56	54	52	50	48	46
60	66⅓	62⅓	58⅓	54⅓	52⅓	50⅓	48⅓	46⅓	44⅓
58	64⅔	60⅔	56⅔	52⅔	50⅔	48⅔	46⅔	44⅔	42⅔
56	63	59	55	51	49	47	45	43	41
54	61⅓	57⅓	53⅓	49⅓	47⅓	45⅓	43⅓	41⅓	39⅓
52	59⅔	55⅔	51⅔	47⅔	45⅔	43⅔	41⅔	39⅔	37⅔
50	58	54	50	46	44	42	40	38	36

16. In order for a charge of one penny a pound on imported foreign meat to raise the home price of meat by one halfpenny per pound, and assuming that at present prices for beef and veal this would be a rise of 8 per cent. and that wholesale prices rise 2 points, the table suggests that in the absence of exceptional changes in demand, supplies of beef and veal would have to be some 1,290,000 tons in 1935. Allowing for the possibility of a deviation of twice the standard error of estimate (*i.e.* of 3 points) below the required estimate by raising the price by seven units, supplies would have to be restricted to 1,270,000 tons in order to ensure a high probability of the price being raised by at least four points (always excluding the possibility of exceptional changes in demand).

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EXCESSIVE COMPETITION IN THE RETAIL TRADES. CHANGES IN THE NUMBERS OF SHOPS, 1901–1931

I

THE growing demand for the licensing of retail shops and a limitation of their number comes from two sources. First, zoning under the Town Planning Acts involves scheduling areas for shops and businesses, and decisions as to the extent to which shops should be allowed to penetrate purely residential areas. The decisions of the Town Planning authority must cover two points: the total number of shops to be provided, and their grouping and distribution. In order to determine their policy, authorities need some idea of the ratio of the number of shops to population, and the realisation that in England and Wales there is one shop to every forty or fifty persons has given rise to the view that this number is excessive, and that we are "over-shopped." Secondly, certain groups within the retail trades, as well as producers whose goods are being distributed, also argue that the country is over-shopped, that this excess capacity results in inflated costs of distribution, poor rewards for many of those engaged in it, and diminished prices and proceeds for primary producers.

Already numerous parties are willing to support or acquiesce in such a scheme of restriction. Those now in the trades would gain by being relieved of the pressure of new competitors. A number of Chambers of Trade have passed resolutions calling attention to the growth in the number of shops. It is said that the Federation of Journeymen Butchers have been considering the promotion of a Parliamentary Bill to limit the number of butchers' shops by licensing. The Shop Assistants Union moved a resolution at the Trades Union Congress in favour of such a system. The excessive number of distributive agencies was criticised both by the Linlithgow Committee and the Samuel Commission. The Irish Free State Commission on the Registration of Shops recommended a complete system of registration and licensing. Thus, existing firms, workers, employers and Royal Commissions alike have supported or flirted with proposals for the licensing of shops, or have favoured a diminution

of their number. It is the purpose of this article to submit certain of the arguments to a statistical test.

We may first review briefly the evidence to be examined. In the course of the present debate on the subject, three senses of the term "over-shopped" have emerged. First, an undue or increased proportion of empty or "derelict" shops is the aspect of the matter of most concern to the town planner. American experience gives him warning. Owing partly to over-estimation of probable population growth, often far too much land has been zoned for shops, to the eventual detriment alike of landowners and city authorities. The fear of creating dreary and derelict shopping sites has thus been strengthened. The New York regional survey suggested a standard which works out at about one shop to every twenty-one houses, half the number found in England and Wales. Secondly, the term also refers to the proportion of shops working at a loss, or at less than normal profits. The heavy incidence of bankruptcy in the retail trades is stressed, for example, by Mr. P. C. Hoffman in his striking plea for licensing shops, in *Shops and the State, and the State of the Shops*. Thirdly, the term is used to mean an increased number of shops sharing the same volume of trade, each unit working at less than its optimum, so that costs and prices are increased. Several lines of argument converge on this point. (*a*) The great proportional growth of the numbers employed in the distributive trades.—According to the Census of 1931, the ratio of males employed per thousand of those employed in 1921 was 1,381, this being larger than that for any other occupational order, except entertainments and sports, clerks and typists, chemical and electrical manufacture. The figures for females were of the same character. The Ministry of Labour returns of insured persons show that the distributive trades now employ more people than coal-mining and building put together. (*b*) The small number of families served by the average shop.—According to the Census of 1921, which gave figures of the number of buildings recorded as shops, there was one shop to every twelve houses, every fifteen families, and every sixty persons. These general figures are not very useful, since there is a great variety of shops handling many kinds of products; whole groups of them are non-competitive. Even so, the figures of the number of families per shop in the separate trades are at first sight a surprise; *e.g.* in Southampton in 1928 there were 117 families per grocer's shop, 309 per butcher's shop and 401 per draper's shop. (*c*) The few families served by the marginal shop and the poor reward

of the marginal unit.—Mr. L. E. Neal [1] argues that the poor average turnover—£10 of trade per day in many cases—and the large number of under-employed units, means overlapping, wasteful competition and an amount of internal slack which militates more than anything else against economical working. Mr. Dunlop's figures, in the ECONOMIC JOURNAL of September 1929, called attention to the small turnover and small size in terms of personnel, of typical units in many lines of trade. The Linlithgow Committee [2] on the marketing of agricultural produce were clearly suspicious of great retailing concerns such as United Dairies, but equally condemned the multiplicity of retailing agencies, on the ground that a large proportion of them were so small and inefficient that they could not provide their services except on wide margins. (*d*) A number of economists have argued that certain types of business policy, such as retail price maintenance, may lead to an increased number of firms, smaller average sales and higher costs.[3]

II

It will be seen that part of the case rests upon statements, expressed or implied, concerning the movement of profit and costs, and of the grouping of firms at or below the margin. Though some work has been done on this, by Mr. Dunlop, Mr. L. E. Neal, and the Incorporated Distributors, as well as by Co-operative Societies and Royal Commissions, the information is still scanty, and without special access to books a private inquiry can make little progress. The purpose of the present investigation was more limited. Running through the discussion is the assumption—often the assertion—that we are now over-shopped in the most obvious sense, *i.e.* that there is an excessive number of shops. Is there any statistical basis for this view?

(1) We cannot make any very definite statements as to the total number of shops, or changes in their number, for the country as a whole. The Census of 1921 gave the number of shops as 615,000, or one per fifteen families.[4] This information was not given in 1931, and for this year we have to rely upon the total number of occupied persons who returned themselves as owners or managers of retail businesses. This was 569,000, or one per

[1] Neal: *Retailing and the Public*, pp. 138–41, 146–7.

[2] Linlithgow Committee on Distribution and Prices of Agricultural Products. *Interim Report on Milk*, p. 93. *Final Report*, pp. 10–11, 23–24.

[3] Braithwaite and Dobbs: *Distribution of Consumable Goods*, pp. 284–5. Chamberlin: *Theory of Monopolistic Competition*, pp. 104–9.

[4] One shop to every twenty-five families in rural districts.

eighteen families. These figures are not strictly comparable, especially in certain trades. Thus, in Southampton 2,539 persons returned themselves as owners or managers of retail concerns, but there were 2,850 shops. The Census of 1931 gave 424 such persons in the grocery trade, but there were 337 shops; in other cases the number of proprietors and managers under-estimates the number of shops. Thus, in the case of confectionery and tobacconist shops, sometimes the owner and manager were concerned in one shop, or in others the owner of a small business apparently followed (and returned) some other occupation whole or part time, and employed a girl assistant. For these reasons the number of shops cannot be derived from the number of owners and managers. (2) We must therefore rely upon investigation in "typical" towns. A number of towns in different parts of the country, some ports, some industrial, some seaside resorts, were selected, as well as towns having different rates of increase in population, and an endeavour was made to trace the growth in the numbers of shops between 1901 and 1931,[1] as compared with the growth in the number of families and persons to be served. The basis of the information was found in the directories. It is not necessary to labour the difficulties to which such an attempt is exposed—changes of classification have to be watched, omissions suspected. But it seems probable that in many towns reputable directories were reasonably complete in 1901. The directories of one or two towns which would have been suitable, after scrutiny were not felt to be as trustworthy as desirable, and were rejected. Those which remain may be regarded as reasonably trustworthy. They represent our only means of bringing the statements of tendency to a numerical test, and no more reliable source of information is available. The accuracy of the directories for 1931 is more easily tested. Where possible they have been checked against the local authorities' records under the Shops Act, though even these are not perfect. As the results given below will show, any under-estimation of the number of shops in 1901—and this is the most likely error—only strengthens many of the conclusions which can be drawn.

One shop may sell two or more different categories of goods, and for the purpose of Tables II and III, which concern the different trades, it is then reckoned in each of the separate categories. But for the purpose of Table I these double reckonings have been eliminated as far as possible. The total number of shops shown in Tables II and III thus exceeds the total number

[1] Following the procedure adopted in the survey of Southampton.

in Table I. A number of adjacent shops which have been turned into a single set of premises for selling one class of goods is regarded as one shop. Separately located branches under a single business control are counted separately. The figures show the number of distributive points, irrespective of size or financial control. Certain shops which provide consumers' services, as distinct from disposing of goods (*e.g.* hairdressers), are excluded. A point of importance is whether the growth of the number of shops is to be compared with the growth in the numbers of people or of families. Is the individual or the family the unit of consumption? The answer varies from trade to trade. In the

TABLE I (*a*)

Shops per 1,000 *Families*, 1901–1931. (*All Trades.*)

	Buildings classed as Shops, Census 1921.	1901.	1931.	Percentage Increase or Decrease, 1901–31.
Southampton	70·0	78·3	60·0	— 23·4
Bournemouth	80·3	94·4	96·8	+ 2·5
Portsmouth	87·0	86·0	72·7	— 15·5
Reading	76·0	109·3	68·5	— 37·3
Hull	81·9	113·2	79·4	— 29·9
Cardiff	80·3	89·4	85·4	— 4·5
Bolton	84·5	84·3	99·6	+ 18·1
Bradford	75·8	87·9	69·4	— 21·0
Middlesbrough	66·3	82·4	49·4	— 40·0
Huddersfield	61·5	58·0	63·9	+ 10·0
Norwich	74·4	70·1	69·8	— 0·4
Poole	—	67·9	55·3	— 18·5
All Towns together	—	87·6	77·5	— 11·5

TABLE I (*b*)

Shops per 1,000 *Population.* (*All Trades.*)

	Buildings classed as Shops, Census 1921.	1901.	1931.	Percentage Increase or Decrease, 1901–31.
Southampton	17·2	17·3	15·5	— 10·4
Bournemouth	18·3	19·3	23·5	+ 21·7
Portsmouth	20·1	19·0	18·8	— 1·1
Reading	18·3	22·7	17·9	— 21·1
Hull	18·9	24·9	19·8	— 20·5
Cardiff	17·2	18·4	20·9	+ 13·6
Bolton	20·1	18·2	26·8	+ 47·2
Bradford	19·5	20·3	19·7	— 3·0
Middlesbrough	14·1	16·2	11·7	— 27·7
Huddersfield	15·5	13·7	18·1	+ 32·0
Norwich	18·2	16·0	18·4	+ 15·0
Poole	—	16·3	14·5	— 11·0
All Towns together	—	19·3	19·25	— 0·26

case of grocers, the family is the more relevant unit, while for tobacconists it is the individual.

The first fact made evident by the table is that the total number of shops has decreased slightly as compared with the number of persons, and has declined sharply as compared with the number of families. In the period under review, the number of families has, of course, increased more rapidly than the number of persons, but on either test, if these towns are representative, the figures afford no support for the view that there has been a great relative growth in the number of shops. Despite the growth of new shopping centres owing to the decentralisation of town populations, this general result can scarcely be unexpected, for it is a natural consequence of the economies of "massive retailing," as Marshall called it. Table I shows the relatively small number of persons and families per shop, when shops of all classes are lumped together, and it is that fact which has so surprised popular opinion, and is so freely quoted as indicating excessive competition.[1] But this is only a confusion of issues. These shops are not all competitive, but are divided into numerous groups, such as butchers, grocers, chemists, booksellers, etc., which do not compete except in the sense that if a consumer buys any one article, he has less money for other things. If these categories of shops are regarded, as they ought to be, as the distributive outlets, the last stage of a considerable number of quite different producing industries, then it is incorrect to throw these different classes of shops into a single figure. Their relation is not to one another, but to the manufacturing groups whose products they distribute. Mr. Neal, who is at pains to emphasise this, is overwhelmingly right. These general figures, then, afford no support for the view that we are overshopped.

The next step is to investigate the separate trade groups. In some cases difficulties were encountered in keeping the definitions of the various categories consistent, but it is believed that this has been done with sufficient precision to allow broad comparisons to be made. Tables II and III below show the results for a number of separate trades. Two points must be borne in mind. First, the two dates are arbitrarily chosen points of time, and not states of equilibrium. It is possible that an exceptional increase in any town may be merely a belated response to conditions favourable to growth which were already present at the earlier date. Secondly, the tables show both the ratio of

[1] See Report of discussion of Mr. Pepler's paper, National Chamber of Trade, Bath Conference, 1934.

shops to families and of shops to persons. Any conclusions drawn from them must distinguish between the cases in which consumption is principally on a family basis, and those in which it is mainly individual.

TABLE II

Percentage Increase or Decrease in the Number of Shops in Specified Trades (a) *per* 1,000 *Population, and* (b) *per* 1,000 *Families,* 1901–31. (*All Towns.*)

	Percentage Increase or Decrease.	
	Shops per 1,000 pop.	Shops per 1,000 fams.
China and Glass Dealers	— 47·4	— 51·2
Pawnbrokers	— 44·4	— 49·4
Photographers	— 31·3	— 37·8
Coal and Coke Dealers	— 30·8	— 37·9
Booksellers	— 26·3	— 34·8
Jewellers	— 22·2	— 30·6
Tailors	— 17·7	— 27·1
Butchers	— 17·4	— 26·8
Grocers	— 14·8	— 25·2
Bakers	— 11·3	— 22·1
Drapers	— 11·3	— 21·8
Outfitters	— 5·4	— 15·1
Boot and Shoe Dealers	— 3·5	— 14·4
Fishmongers	— 2·6	— 10·9
Dairymen	— 2·4	— 14·1
Fruiterers	— 0·9	— 9·8
Music and Piano Dealers	Nil	— 7·5
Newsagents	+ 4·4	— 7·3
Ironmongers	+ 10·3	— 2·3
Tobacconists	+ 15·0	+ 0·4
Chemists	+ 15·1	+ 1·4
House Furnishers	+ 18·2	+ 6·1
Cycle Dealers	+ 23·8	+ 9·6
Confectioners	+ 71·7	+ 52·7
Opticians	+ 100·0	+ 85·7
Fried-fish Dealers	+ 176·9	+ 144·1
All Trades	— 0·26	— 11·5

It will be seen that the trades fall into three distinct groups. Some show a relative decline in the number of selling points as compared with the number of families and persons; some show a relative increase on both bases; and others show an increase as compared with the number of persons, but a decrease as compared with the number of families. (1) It is striking that the food trades, precisely those in which the multiplicity of shops has been blamed for robbing both consumer and producer by raising distributive costs, are just those in which the decline in the relative number of shops is most striking. The average shop is serving more customers, not less. (2) In many cases the relative increase in the number of shops can be accounted for by

rising standards of consumption, *e.g.* tobacconists, confectioners, opticians, fried-fish dealers. (3) But in other cases, where rising expenditure standards are also evident, there has been a decrease

TABLE III

Percentage Increase or Decrease in Shops (A) *per* 1,000 *Families, and* (B) *per* 1,000 *Persons in Specified Trades*, 1901–31.

	Grocers.	Grocers and Shop-keepers.	Bakers.	But-chers.	Drapers.	China and Glass.	Chem-ists.	Tobac-conists.	Confec-tioners.
					(A) *Per* 1,000 *Families.*				
Southampton	−14·6	−20·0	−45·2	−23·2	−40·1	−54·5	− 9·8	+ 38·2	+ 45·9
Bournemouth	−22·5	−24·5	−18·8	−21·9	−14·7	−47·0	−12·8	+115·7	+ 25·4
Portsmouth .	−16·6	−18·5	−36·6	−31·1	−21·7	−50·0	+ 3·0	+ 5·1	+ 33·5
Reading .	−43·8	−26·2	−61·9	−27·2	−38·7	−80·5	−15·6	− 12·1	− 12·6
Hull . .	−46·0	−29·4	−16·8	−21·8	−28·6	−68·1	−22·9	− 61·6	+ 21·9
Cardiff .	− 7·4	− 8·7	+ 1·1	−38·2	−47·1	—	−13·8	+ 86·7	+ 77·9
Bolton .	—	+29·4	+22·2	−29·3	−15·0	−20·3	+69·3	+ 37·0	+300·0
Bradford .	—	−26·7	−43·8	−30·4	−20·6	−66·3	+20·3	− 65·2	− 14·1
Middlesbrough	—	−73·5	−21·0	−43·8	−41·7	−73·8	+ 6·4	− 34·6	+ 67·7
Huddersfield	+31·2	+36·1	−15·4	+ 4·2	+ 6·8	−30·6	− 4·5	− 40·4	+ 62·7
Norwich .	+75·3	−13·8	−33·4	−29·4	−15·5	−66·6	−10·1	− 20·9	+207·2
Poole . .	−44·9	−41·0	−41·3	−26·9	−13·5	−68·6	− 2·6	+ 22·1	+174·3
All Towns .	−25·2	−21·0	−22·1	−26·8	−21·8	−51·2	+ 1·4	+ 0·4	+ 52·7
					(B) *Per* 1,000 *Persons.*				
Southampton	NIL	− 6·5	−35·6	−10·0	−30·5	−42·9	+ 3·1	+ 61·4	+ 72·2
Bournemouth	− 9·5	−11·9	− 5·0	− 8·5	NIL	−39·4	+ 3·0	+152·6	+ 46·3
Portsmouth .	− 2·4	− 4·6	−25·9	−19·6	− 8·6	−42·9	+ 22·2	+ 22·9	+ 54·7
Reading .	− 30·9	− 9·1	−51·7	−10·0	−22·8	−75·0	+ 3·3	+ 7·6	+ 7·6
Hull . .	− 37·6	−20·2	− 6·4	−12·0	−18·8	−64·0	− 10·3	− 54·7	+ 39·1
Cardiff .	+ 10·2	+ 8·6	+21·1	−26·2	−36·6	—	NIL	+122·0	+110·6
Bolton .	—	+62·6	+52·3	−11·7	+ 6·3	NIL	+110·5	+ 60·4	+401·4
Bradford .	—	− 9·1	−26·5	−14·6	− 5·1	−56·5	+ 48·1	− 57·7	+ 5·7
Middlesbrough	—	−68·4	− 9·5	−32·7	−29·6	−68·8	+ 22·7	− 21·9	+101·4
Huddersfield	+ 57·7	+63·2	NIL	+25·2	+29·2	−15·0	+ 12·5	− 12·8	+ 94·9
Norwich .	+101·5	− 0·1	−23·5	−14·4	− 2·2	−64·7	− 2·9	− 8·0	+251·7
Poole . .	− 40·0	−41·0	−36·3	−19·8	− 5·9	−56·0	+ 5·5	+ 33·3	+296·9
All Towns .	− 14·8	−10·4	−11·3	−17·4	−11·3	−47·4	+ 15·1	+ 15·0	+ 71·7

in the relative number of shops, *e.g.* ironmongers, china and glass dealers, drapers, booksellers and newsagents. Special circumstances, such as limitations of entry, or the development of new forms of retailing like the department store and the fixed-price bazaar, are often sufficient to account for these cases. We may conclude that despite the difficulties to which an attempt to test the matter statistically is subject, the foregoing investigation shows, if its results can be regarded as representative, that statements asserting or implying that there has been a relative increase in the number of shops cannot yet be regarded as proven.

The arduous and detailed calculations involved in the investigations were carried out by Mr. Gilbert White, University College, Southampton, whose patient persistence calls for unstinted acknowledgment.

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REVIEWS

The Theory of Money and Credit. By PROFESSOR LUDWIG VON MISES. (Cape. 1934. Pp. 445. 18*s.*)

THIS is an English translation of the well-known *Theorie des Geldes und der Umlaufsmittel,* which appeared in 1912 and was reviewed in the ECONOMIC JOURNAL for September 1914. The translation has been well done by Mr. A. E. Batson. It is of the second edition, which appeared in 1924. It is not necessary now to add anything to the very judicious appraisement of the general merits of the work made by Mr. Keynes, the reviewer of 1914. He recognised and commended its dialectical skill and "enlightenment," but found it wanting in constructive power.

In what follows I propose rather to offer some detailed criticisms of the economic reasoning contained in the book.

At the outset Professor von Mises deals with the nature of money. He defines it rigorously as a medium of *exchange.* The concept of money as a medium of *payment* he rejects as appropriate to the jurist rather than to the economist (pp. 36–7). He has a special antipathy to the "nominalist" theory of money, typified in the school of Knapp. He detests Etatism, and holds that it is usage, not law, that establishes anything as a medium of exchange, and that legal tender laws, which appear to prescribe the form of money, are usually in reality no more than a recognition of this usage. The decisive power of the State in the matter he attributes not to the forms of legislation but to the State's control of the operations of coinage and of the issue of currency. People are led to use the media which they find actually available.

Yet the antithesis between the two views of money is not so sharp as he supposes. For in practice what constitutes anything a medium of exchange is that whoever receives it knows he can pass it on, or, in other words, that he can use it as a medium of *payment.*

That does not mean that a medium of exchange must be prescribed by law, for a medium of payment may itself be established not by any action on the part of the Government, but by usage. That applies both to the precious metals and also to credit instruments such as bank-notes, for a debt can be discharged by the assignment of another debt. Thus within certain

limits the two definitions of money as a medium of exchange and as a medium of payment are equivalent to one another. Nor does the latter make any concession to Etatism.

Professor von Mises distinguishes "money" from "money substitutes" (p. 50). Money substitutes are claims to money, which, being payable on demand and perfectly secure, can be used as media of exchange at their full nominal value; they include paper currency, bank credit and token coins.

Money, properly so called, he divides into (1) *commodity money*, which is at the same time a commercial commodity, (2) *fiat money*, which has a special legal qualification, and (3) *credit money* (p. 61).

Credit money is distinguished from money substitutes in that it consists of claims to money which are either not payable on demand or not absolutely secure. The value of such a claim is *less* than the amount of commodity money indicated, either because, as in the case of a bill of exchange, it is payable at a future date, or because payment in commodity money is "not absolutely secure."

In the case of fiat money, "it is not the material bearing the stamp that constitutes the money but the stamp itself" (p. 62), but we encounter the rather astonishing statement that "whether fiat money has ever actually existed is, of course, another question and one that cannot off-hand be answered affirmatively" (p. 61).

Token coins are to be classed as money substitutes and not as fiat money because, even when not "claims in the juristic sense," they are nevertheless in practice convertible on demand into money. German token coins under the Coinage Act of 1873 "did not in law constitute claims to money," but "were in fact cashed without any demur at the branches of the Reichsbank specified by the Chancellor" (p. 55).

When, as in England, token money in large sums is *not* cashed without demur, but a small commission is charged, does that constitute it fiat money?

And what is the position of defective coin, whether worn or imperfectly executed? It may circulate at par for a long time, though no one undertakes to convert it into good coin. And then, when circumstances occur to bring Gresham's law into operation and drive away all the good coin, what remains will circulate at a discount in terms of commodity money, but at par in terms of the money of account. How great a part that process has played in the monetary history of the world! Yet Professor von Mises hardly mentions it.

"It may be stated," he says, "as an assured result of investigation into monetary history that at all times and among all peoples the principal coins have been tendered and accepted, not by tale without consideration of their quantity and quality, but only as pieces of metal of specific degrees of weight and fineness. Where coins have been accepted by tale, this has always been in the definite belief that the stamp showed them to be of the usual fineness of their kind and of the correct weight" (p. 64).

No evidence is quoted in support of this amazing statement. Had it been correct, worn and light coin would never have caused any trouble, except for the vexatiousness of weighing and the strain placed on the arithmetical attainments of the recipients of coin (no small matter in the Middle Ages). Gresham's law would have been inoperative, and the money could not have depreciated.

It is probably true that in commercial and financial transactions on a large scale, and especially between distant centres, money has always passed by weight. But in small and local transactions payment by tale has been inevitable, and any temporary departure from it almost intolerable.

The phenomena of imperfect coinage cannot be understood except by reference to a *money of account*, in which pecuniary contracts or debts are expressed, and which is distinct from the currency in circulation. A debt can be discharged in the currency of the day, but it is not correctly defined as a contract to deliver currency. The currency may be modified either by law or by usage within the duration of a debt, and even at a given moment there may be ambiguity as to the medium in which the debt can be discharged. Despite all such doubts or changes, the complex of debts preserves a continuous existence. Indeed the principle of the continuity of pecuniary relations is one on which Professor von Mises relies as an essential factor in his theory of the value of money.

Whatever the true character of token money, it might have been expected that legal tender paper money would be classed as fiat money. But so long as it is convertible we are told to count it as a money substitute, and, when it becomes inconvertible, as credit money.

Credit money in that form is a claim to commodity money, which falls below par because it is insufficiently secure. We might infer that the value of an inconvertible currency is derived from the prospect of its future convertibility. But that view

Professor von Mises repudiates. His argument against it is a singularly lame one. How, he asks, could it come about, as it did in Austria, for instance, in 1884, that government bonds bearing interest at 5 per cent. could be below par, and so valued less highly than non-interest-bearing currency notes (p. 127)?

Surely if the paper currency is expected to become convertible into metal at a certain rate at a certain future date, an interest-bearing bond will be expected at the same future date to attain the corresponding metallic value, which for it may quite well be below par. The present value of the bond may be relatively somewhat higher, in that it will be earning interest in the interval before the currency becomes convertible, but the mere fact of its being below par proves nothing.

Defective as this argument may be, the conclusion is, no doubt, true that the value of an inconvertible currency is in general determined not by the prospect of future convertibility, but by the present demand for it for the monetary use.

Professor von Mises, however, does not offer us a very satisfactory explanation of how the monetary use determines the value of the unit. He criticises the quantity theory of money in that it only explains what causes *changes* in the exchange ratio between money and commodities, and not what determines the exchange ratio itself (p. 116). And he arrives at the conclusion that, to explain the exchange ratio at any time, we must follow the process of change, determined in accordance with the quantity theory, back and back to the time when the material of which the commodity money is composed was valued merely as a commodity, uninfluenced by the monetary use (pp. 120–21).

It is strange that he should have had recourse to so far-fetched a theory of the value of money. The quantity theory, in some forms at any rate, has not the fault he imputes to it. He himself, following Menger, expounds what is nowadays called the "cash-balance" theory, basing the quantity theory on the cash balances that individuals desire to hold. But he omits the essential principle that it is the wealth-value or purchasing power of the individual's cash balance that is determined by his economic needs, and that equilibrium will be found at the price level at which the aggregate wealth-value of the cash balances required by all the people is equal to the aggregate wealth-value of the stock of money.

Here we have a perfectly definite static principle determining the actual value of the monetary unit and not only changes in its value. Nor is it merely a recent development evolved by

Professor Pigou and Mr. Keynes from the tradition of Marshall's oral teaching. Professor Marget has pointed out that it was clearly and adequately formulated by Walras (whose *Théorie de la Monnaie* is referred to by Professor von Mises on p. 116). Had Professor von Mises employed it, he could have explained the value of the monetary unit without reference to commodity money or to historical continuity.

He argues that individuals' demands for money will not necessarily move in proportion to prices (p. 165). And as a *dynamic* principle that is, of course, so. But as a foundation for a theory of the value of money a *static* principle suffices.

Professor von Mises finds fault with economists like Mill and Professor Irving Fisher, who, in explaining the Quantity Theory, have made artificial suppositions, such as that "to every pound or shilling or penny in the possession of anyone, another pound, shilling or penny were suddenly added" (p. 140), that "what was previously called a half-dollar is now called a whole dollar," or that "the government gives everybody an extra dollar for each dollar that he already possesses" (p. 144). He objects that even if such a thing did happen, a uniform exact doubling of prices could not be expected to follow. But the hypotheses made are merely devices to convey to the reader the significance of a static principle. And the static principle Professor von Mises recognises to be correct (p. 145). Indeed, he himself resorts to a similar hypothesis (p. 207).

Although "the central element in the economic problem of money is the objective exchange value of money, popularly called its purchasing power" (p. 97), Professor von Mises is inclined throughout his book to minimise the importance of changes or differences of purchasing power. He so far indulges in paradox as to deny local differences of purchasing power: "the purchasing power of money is the same everywhere; only the commodities offered are not the same. They differ in a quality that is economically significant—the position in space of the place at which they are ready for consumption" (p. 176). We must not say that bread is dearer in Paris than in London, because bread in Paris is a different commodity from precisely similar bread in London. If we pay more for our bread in Paris, it is because we are paying for the advantage of being in Paris.

When he comes to treat of changes in the purchasing power of money, Professor von Mises traces their harmful effects exclusively to the disturbance of the relative position of different

classes, in that some are in a position to adjust themselves to the changed conditions before others.

He denies that a fall in the purchasing power of money can lead to increased production, except that if the conditions are such that wealth is transferred to the rich from the poor, saving and consequently capital-accumulation will be encouraged, and production will consequently be stimulated and so the welfare of posterity increased (pp. 208 and 221).

What of the effect of a *rise* in purchasing power? Cannot that cause a decrease of production? Professor von Mises, when he expresses the consequences of a monetary disturbance in terms of the relative delay in adjustment of the different classes of the community, does not bring out the special importance of a lag in the adjustment of wages. For it is that lag which is the cause of unemployment, a topic which he altogether neglects.

Perhaps if he had ever envisaged a disparity of costs and prices arising from a monetary contraction which depresses prices relatively to wages, he might have been less sceptical of the possibility of a monetary expansion increasing production.

The subject of the third and concluding part of the book is Money and Banking. Banking is the source of "fiduciary money," that is to say, such part of money substitutes as is not backed by commodity money. The part that is so backed is to be called "money-certificates," so that if there are bank-notes in circulation of which one-third is covered by money and two-thirds not so covered, then each individual note is to be reckoned as two-thirds fiduciary medium and one-third money-certificate (p. 133).

A bank, when it grants credit, creates the fiduciary medium "practically out of nothing" (p. 306). The banks "are in a position to satisfy all the requests for credit that are made to them. But the extent of these requests depends merely upon the price that they demand for granting the credit" (p. 310). "By reducing the rate of interest charged on loans, it is possible for the banks indefinitely to increase the public demand for credit. And since the banks . . . can meet all these demands for credit, they can extend their issue of fiduciary media arbitrarily" (p. 354).

The banks have it in their power to reduce the actual rate of interest below the natural rate. "Does the matter rest there, or is some force automatically set in motion which eliminates this divergence between the two rates of interest?" (p. 360).

Of course convertibility into commodity money may impose a limit. But how does the position work out when there is no prescribed limit to the creation of fiduciary money?

Professor von Mises employs the Böhm-Bawerk theory of capital, expressing the capital equipment of industry in terms of the "period of production," which "must be of such a length that exactly the whole available subsistence fund is necessary on the one hand and sufficient on the other for paying the wages of the labourers throughout the duration of the productive process" (p. 360). When the rate of interest is reduced below the natural rate, "a lengthening of the period of production promises for the time to be profitable." If the demand for capital goods is artificially reinforced in this way, "a time must necessarily come when the means of subsistence available for consumption are all used up, although the capital goods employed in production have not yet been transformed into consumption goods" (p. 362).

Thus whereas "the increased productive activity . . . at first causes the prices of production goods to rise while the prices of consumption goods, although they rise also, do so only in a moderate degree, viz. only so far as they are raised by the rise in wages," yet soon "a counter-movement sets in; the prices of consumption goods rise, those of production goods fall. That is, the rate of interest on loans rises again, it again approaches the natural rate" (pp. 362–3).

The assumption is that a change in the relative price levels of consumption goods and production goods can be *identified* with a change in the rate of interest (pp. 339–40). But that is not so. A relative rise in the prices of consumption goods can perfectly well coexist with a low rate of interest. The result will be an extra profit to the dealers in consumption goods, which might make them *willing to pay* a higher rate of interest. But, if the banks choose to go on lending at a lower rate, that merely means that the extra profit persists.

If we start by assuming a creation of credit by the banks in favour of people who use it for the production of capital goods, we find that this increased demand for capital goods is quickly accompanied by an increased demand for consumption goods, as the production of the capital goods generates incomes and therefore demand for goods in general. There is a *general* expansion of demand and a *general* rise of prices. The price level of consumption goods may rise either more or less than that of capital goods (and it should be remembered that an expansion

of the demand for consumption goods itself tends to evoke an increased demand for capital goods).

But in any event, so long as the banks continue to offer loans at a low rate of interest, that will be the rate prevailing in the market. The general rise of prices will mean a prevalence of excess profits, among which the excess profits directly due to the saving on the charges for borrowing will be quite a minor affair.

The idea that expansion will be brought to an end by the exhaustion of the "subsistence fund" is quite baseless. In Böhm-Bawerk's theory the subsistence fund includes the entire capital equipment of the community, the actual stock of finished goods available for consumption being a relatively small item. The general expansion of demand encroaches on this stock, but the rise in prices of consumption goods supplies the necessary corrective and prevents the stocks from being depleted. The subsistence fund *as a whole*, including as it does the new capital in course of production, is increased.

But Professor von Mises' treatment of this part of his subject is further open to criticism in that he neglects the distinction between the long-term and short-term rates of interest. He supposes that when the banks reduce the rates they charge, the effect will be felt in a stimulus to the production of capital goods. But the rate of interest charged by the banks is a short-term rate, and while a reduction is likely to react in some measure on the long-term rate, and so ultimately to stimulate capital outlay, the more direct effect is on the short-term borrowing, which is mainly for purposes of working capital and especially for the purchase of goods for sale or for use in production. And here the stimulus is likely to be felt from the beginning to a great extent in an increased output of *consumable* goods.

It is only because he lumps together the long-term and short-term investment markets that Professor von Mises so far ignores the predominance of the banks in the latter as to say: "we obviously need only consider the case in which the banks reduce the rate of interest below the natural rate. The opposite case, in which the rate of interest charged by the banks is raised above the natural rate, need not be considered; if the banks acted in this way, they would simply withdraw from the competition of the loan market, without occasioning any other noteworthy consequences" (p. 360).

Since the banks are practically the only short-term lenders in the market, the consequences of their charging high rates are very noteworthy indeed! Here, in fact, is the whole question

of deflation. To exclude this contingency is to exclude the possibility of production being restricted through a credit contraction and an appreciation of the monetary unit. It is to exclude even the possibility of a deterrent bank rate. That explains how it has been possible for Professor von Mises to say that a depreciation of the monetary unit cannot increase production. If we assume that there can never be any unemployed productive capacity, we need not consider the case of an increase in production except as a result of an increase in the factors of production.

When he turns to the historical application of his doctrine of crises, Professor von Mises observes that the banks have always left off expanding credit before reaching the limit, on account either of their own misgivings or of the statutory limitation of the currency, " and so the crises broke out before they need have broken out " (p. 365). If that is so, the doctrine would in any case hardly offer an explanation of the crises that actually occur.

In the preface to the second edition Professor von Mises expresses a more unqualified belief in his theory as a sufficient explanation of crises, and in the new preface that he has now written for the English edition, he reaffirms it, contending that " attempts to carry out economic reforms from the monetary side can never amount to anything but an artificial stimulation of economic activity by an expansion of the circulation, and this, as must constantly be emphasised, must necessarily lead to crisis and depression. Recurring economic crises are nothing but the consequence of attempts, despite all the teachings of experience and all the warnings of the economists, to stimulate economic activity by means of additional credit " (p. 21).

It will be noticed, however, that he no longer denies that credit expansion may " stimulate economic activity." And he points out that, when there is a general fall of prices, " stabilisation of wages must mean increasing unemployment and the perpetuation of the disproportion between prices and costs and between outputs and sales, which is the symptom of a crisis " (p. 15). The troubles that followed the restoration of the gold standard in England were due, in his opinion, " to the gold value of the pound having been stabilised at a higher value than corresponded to the level of prices and wages in the United Kingdom " (p. 14); and the reason for the country lapsing from the gold standard, instead of employing " the customary and never-failing remedy of raising the bank-rate," was " to prevent a further fall of prices

in England and above all, apparently, to avoid a situation in which reductions of wages would be necessary" (p. 16).

If our lapse from the gold standard was (as it seems) "an attempt to carry out an economic reform from the monetary side," does he condemn it as necessarily leading to the sequence of excessive expansion, crisis and depression? According to his doctrine the danger is that, if the banks, which have in the past, as he says, invariably of themselves put a limit to such an expansion, fail to do so, the country will be faced eventually with an exhaustion of the "subsistence fund," which will no longer be sufficient to sustain the excessive investment activity which will be in progress! Surely there will be time enough to think of the "subsistence fund" when the investment activity has begun. And meanwhile the depreciation of the pound seems to be the most logical and natural correction of the disproportion between prices and costs.

If he thinks it would be better to rely on a reduction of wages (which the experience of the restored gold standard in 1925–31 has shown will not occur), surely it is for him to explain why.

R. G. HAWTREY

Economics and Practice. By A. C. PIGOU. (Macmillan. Pp. 154. 4*s.* 6*d.*)

IN these *Six Lectures on Current Issues*, Professor Pigou has allowed himself a freedom of expression which enables those who know him only through his classical writings to make a closer and more personal acquaintance. The same deftness of argument and clarity of reasoning are used to separate the right and wrong, as regards both meaning and purpose, in the utterances and acts of public men on such main issues of our time as Reflation, Public Works, the Trade Balance and the Tariff, Planning and Restriction. He allows himself a welcome indulgence of phrase and of incisive wit which reveal to his wide circle of readers something of the personality they may have thought of only as a stern taskmaster, but now become intimate and friendly. On a few occasions he quite lets himself go, and these are fair blows, always with a velvet glove. Throughout, and in this setting of less formal exposition, the lectures are at the heart of the issues with which they deal.

There are signs in this book of the manner in which the complexity of the economic problem has influenced the confidence with which economists used to speak on some major questions. It is possible to give away too much to the contention that economics

must be purely positive. The broadening of the basis from wealth to welfare makes the line between the positive and the normative very thin. We have for long been supposed, and have been accused for supposing, that there were non-economic lines of policy. Some still think so, in distinction from opportunist or historical schools. One can imagine some characteristic remark from Ashley had he lived to read, for example, the end of the fifth of these lectures.

Professor Pigou regards the Planning argument as a "castle of words," unless we know to what end we are planning. On the other hand, he speaks (p. 31) of a planned society as a significant idea. I understand planners to hold that, whatever the end, it is more likely to be obtained the more there is unified supervision over the use of national resources. I agree that this is not free from mere verbal assumptions. Supervision over, for instance, foreign trade or private enterprise may take place at General Elections, and if the decision is to leave them both free, then free trade and private enterprise become plans. The term seems to be used at present to describe the fact of deliberate choice, or the substance of what is chosen, or the method by which something is done.

The lecture on the Balance of Trade recalls the Essay of Giffen, who in 1901 raised and answered the same question: whether we are living on capital when foreign investment is being reduced. Professor Pigou sees the necessity, a generation later, of underlining the main contention of that Essay, that the analogy of an individual fails in the case of a community, but he extends the argument to cover some special features of the time when alarm was taken. The lecture on Economy and Waste deals particularly with that form in which the "public works" problem presents itself when a slump is in being, as distinct from the larger question of long-period flexible programmes. This lecture should be read with the well-known pamphlets of five years ago, and the famous (or notorious) Treasury Memorandum. Professor Pigou has drawn attention to the distinction, which was emphasised to me by civic engineers, between the administrative attitude towards altering the pace of the development of public works, and the retrospective view of how boom and slump *might have been* adjusted to each other. The Poor Law Commission, which started this discussion, took academic evidence on the latter point, but none from administrators on how it appeared to them.

The lecture on Restrictions raises the whole of the post-war

problem which has been called by Stamp the "technique of economic change." The right and the wrong are mixed in some half-dozen methods of carrying the losses of adjustment, of which the chief types are discussed here. The moral of Professor Pigou's argument is seen in the choice that is now before the cotton spinners, and their difficulty in making it.

This book is well named, for it makes practice meet economics.

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D. H. MACGREGOR

Monetary Policy and Economic Stabilisation. By A. D. GAYER. (London: A. & C. Black. 1935. Pp. xiii + 288. 8s. 6d.)

THIS is a timely book. Mr. Gayer has gleaned with discrimination in the fertile field of recent writings on the subject of money. The result is a straightforward discussion of general monetary principles in relation to monetary practice, primarily in the United States and Great Britain,—the two countries, according to Mr. Gayer, upon whose policy the future of the gold standard essentially rests.

That these two countries should proceed with deliberation in taking a decision to return definitively to gold is the conclusion to which in Mr. Gayer's judgment the experience of the Great Depression points. His reasons are different from those of Messrs. Warren and Pearson, who attribute the collapse of prices to a world shortage of monetary gold. This argument he successfully confutes. Further, he suggests strong grounds for believing that upon certain conditions a future shortage is unlikely and that therefore consideration of other rival or complementary metallic bases, with their grave disadvantages, may properly be dismissed. Pactolus yet has sands of gold.

But the distribution of gold reserves amongst central banks, and related credit policies, have been, and must be, matters of vital concern. Mr. Gayer holds that the world slump was due to the fact that rigidities in internal price and cost structures, suffering the impact of unequal technological advance in different industries and countries, gave rise to international economic strains which led to, and in turn were enhanced by, a maldistribution of gold. No account of the origins of the world slump will be likely to touch that of Mr. Robertson [1] in sense of proportion and in masterly conciseness. But Mr. Gayer provides a lucid survey of certain main aspects of developments in the

[1] Pigou and Robertson: *Economic Essays; the World Slump.*

United States. There the early inflow of gold made possible, if it did not actively generate, "relative inflation" (in the sense of a stable commodity price-level despite falling costs), labour income failed to rise enough to prevent the emergence of substantial "profit inflation" (in the terminology of Mr. Keynes), and, finally, bubble speculation in securities and real estate attracted both foreign and domestic capital on a vast scale.

If Mr. Gayer has perhaps too simply explained American post-war economic disequilibrium by reference to the slow rate of change in labour income, his analysis does bring out sharply two major issues pertinent to the question of a return to gold. First, from a long-period point of view, is an approximately stable or a cost-following price-level the desideratum in a progressive economy? Mr. Gayer's discussion of this issue is looser than that of Mr. Harrod[1]; but with an eye to practical policy he proposes an answer tentatively in favour of the former alternative for Great Britain and of the latter for the United States. This answer obviously points at least to a measure of independence of their monetary systems. Secondly, can central banks in pursuit of a chosen objective obtain adequate control over the effective supply of money? Mr. Gayer notes the importance of changes in the velocity of circulation of deposits and cash in the American boom and subsequent collapse. Will legislation as to "security loans," the Reserve Board's new power to vary member bank reserve requirements, the co-operative timing of public works to balance variations in private investment, be likely to succeed where discount rate changes and open-market operations alone may fail? *Mutatis mutandis*, to what extent can the Bank of England, under the ægis of the Treasury, regulate in practice the effective volume of credit? How are gold movements to be dealt with which follow in the wake of short-term capital, unduly responsive as the latter is nowadays to changes in relative discount rates, or uneasily fugitive at the beck and call of Rumour? These and other problems of technique, Mr. Gayer urges, press for solution before Great Britain and the United States commit themselves to a common gold standard.

Meanwhile the figures of international trade mark the cost to the peoples of the world of monetary frames of reference no less relativist than the conceptual framework of modern physics.

M. TAPPAN HOLLOND

[1] *Economica*, August 1934.

The Exchange Equalisation Account. By N. F. HALL. (Macmillan & Co., London. 1935. Pp. 115. 7*s.* 6*d.*)

"SIMPLICITY and secrecy have characterised the operations of the Exchange Equalisation Account." There can be no doubt as to the secrecy, though secretiveness may be a better word, but simplicity is another matter. The basic principles are no doubt clear enough, at any rate when expounded by Mr. Hall, but the *modus operandi*—the technical mechanism of the Account—is not so simple, largely owing to its first characteristic. Indeed Mr. Hall is perhaps not as informative on this aspect as he might have been, and a comparison of his book with the recent article by Mr. Paish on the same subject in *Economica* of February 1935 shows that the former has not contrived to extract all that could be squeezed from the scanty information available: it is a pity that the article should not have appeared before this book was published so that Mr. Hall could have availed himself of the extremely ingenious method devised by Mr. Paish for calculating the magnitude of the operations conducted by the Account.

Mr. Hall uses the Exchange Equalisation Account as a peg on which to hang a most illuminating study of the problems and difficulties of currency management in post-war conditions. He shows that the growths of international deposit banking (to use the Macmillan Committee's phrase), and the extent of internal unfunded indebtedness, have fundamentally altered the working of currency standards and have put quite new problems before those responsible for their management.

In his study of the working of the Exchange Equalisation Account Mr. Hall differentiates sharply between the period before and after April 1933. He holds that prior to that date the Account was "essentially an accountancy device to facilitate short-term capital movements and to prevent them disturbing either the exchanges or the supplies of money in the market." Since that date the Account "appears to have been exercising a positive policy with regard to the external value of sterling. . . . The pound becomes a satellite of the dollar as the result of the deliberate choice of the Exchange Account, and the gold currencies are allowed to appreciate in terms of sterling to the level necessary to equate the dollar and the pound." The results of this policy were to deflate prices in the gold bloc countries and to intensify world depression. It may be noted, however, that since August 1934, *i.e.* subsequent to the period covered by Mr. Hall, the Account appears to have sold sterling heavily in the endeavour to support the sterling–franc exchange.

In a very interesting chapter he advocates the continuance of the Exchange Equalisation Account, not, however, as a separate Fund, but incorporated in the Issue Department of the Bank of England, and he shows how this would increase the control of the Bank of England over the exchanges and monetary conditions in general.

While a number of criticisms could be made on points of detail, there can be no doubt that Mr. Hall has made a valuable contribution to an important aspect of the problem of currency management.

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Studies in Capital and Investment. Edited by G. D. H. COLE. (Gollancz. 1935. Pp. 320. 12*s.* 6*d.*)

THIS volume includes eight essays by members of the Economic Section of the New Fabian Research Bureau, and in the Introduction it is emphasised that the Bureau exists to promote research rather than to prepare policy. No doubt this can be used to protect the authors against the charge of lack of agreement on particular points, but as a product of co-operative research the results are definitely disappointing. Apart from an apparent agreement on the main lines of socialist policy, there is little evidence of conscious planning in the preparation of the studies as a whole. Nor is it too much to ask that in works which are issued under the cloak of research the temptation to indulge in the cheaper dialectics of mere propaganda should be avoided.

Mr. Dickinson's opening essay on "The Failure of Economic Individualism" makes the usual points as to the working of the price mechanism on the assumption of complete competition together with the effects which might be expected to follow the introduction of privately controlled monopoly. The problem is approached analytically rather than realistically. But even on its own foundations the essay is incomplete. The defects of the capitalist system are ranged under three heads—the deviations from ideal equilibrium under competition, the deviations due to monopoly, and the dynamic disturbances associated with the working of the monetary system—but only the first two of these are discussed. Perhaps the author came to realise that different types of monetary system are consistent with capitalism. But nowhere among the eight studies is there any real discussion of monetary policy despite its importance for problems of capital

investment. The only references occur later in the book, where it is indicated that under socialism some foreign exchange control would be necessary, together with the point that the gold standard, if it existed, would have to be suspended, at least during the transition.

Mr. Cole's essay on "The Evolution of Joint Stock Enterprise" adds nothing to our existing knowledge and disappoints just where it might perhaps have been interesting. On the question of compensation under socialism, after a few very slight observations we are left with the statement that "this whole question obviously requires far more thinking out than I can hope to give it in this section" (p. 98).

The essay on "Recent Capital Issues" reaches a somewhat higher standard of research, and the same may perhaps be said of the essays on "Insurance Companies and Investment Trusts" by Mr. Williams and "Building Societies" by Mr. Watkins. The chapters on "Foreign Investment," "The Problem of Foreign Exchange Control," and "The State and Investment" leave many questions unasked, while some of those that are asked remain incompletely answered. Mr. Davies is apparently satisfied that under socialism, foreign investment policy may be used for political purposes, while for Mr. Radice it is an unanswered question whether it is desirable for a socialist state to have any foreign investments. The possibility of retaliation against the socialist state does not seem to have occurred to Mr. Davies, though it is surely permissible to imagine that conflicts of interest could occur not merely between socialist and non-socialist states but also between states which agreed to wave the flag of socialism.

On the question of foreign exchange control, we are told that the object would be to "secure the largest possible volume of those imports which will serve industries and raise the standard of living of the workers" (p. 277). But it is difficult to derive much enlightenment from the statement that the main safeguard against "black" exchanges would be "to relate the exchange rate as far as possible to the external and internal values of the currency (perhaps on a 'purchasing power parity' basis), having due regard to the balance of payments" (p. 288).

There is no discussion of the important problem of the supply of savings under socialism for the community as a whole, and Mr. Radice is singularly naïve in his discussion of the attitude to be adopted with regard to non-socialised industries. On the one hand, it is indicated that there would be increased taxation on undistributed profits, but on the other—and indeed on

the following page—" it will probably be advisable in the early stages of socialisation to encourage rather than to discourage the accumulation of capital by private industrial concerns " (p. 304). Perhaps it would be wiser to postpone consideration of this point until Mr. Cole has given more attention to the question of compensation.

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The Modern Corporation and Private Property. By A. A. BERLE and G. C. MEANS. (New York: Macmillan Co. 1934. Pp. 396. 16*s.*)

Liquid Claims and National Wealth. By A. A. BERLE and V. J. PEDERSON. (New York: Macmillan Co. 1934. Pp. 248. 10*s.* 6*d.*)

A CURIOUS but unfortunate fact about realistic economic studies is the unequal amount of research devoted to equally important problems. Dozens of books have appeared on the Trust Problem and Industrial Combinations; practically none on the Joint Stock Company. Yet the majority of combines are joint stock companies, and it is impossible to appreciate the effects of combinations on social and economic control, on planning and on efficiency, unless one understands the way a joint stock company works out in practice.

Here at last, in *The Modern Corporation and Private Property*, is a book that analyses the actual practice and the implications of the joint stock method of organisation. The book is written by an excellent combination, an economist and a lawyer trained in the realistic Harvard School. For the subject transcends economics; and until a school of political science arises that deigns to deal with economic organisation, a lawyer trained in the problems of the Great Society is likely to be the best *locum tenens*. As things turn out, we are not disappointed.

The authors begin with an estimate of the importance to American economic life of the bigger companies; they limit themselves to the biggest two hundred non-financial corporations. Such limitation is justified by the amazing discovery that this mere two hundred, out of the three hundred thousand non-financial corporations of America, own 38 per cent. of the entire business wealth of the United States and that this proportion seems to be growing fast. Even to one who has always believed in the importance of large-scale firms, this discovery is staggering.

As the authors say (p. 45), " a study of the directors and senior officers of the two hundred largest companies, their training, social background and other characteristics, would reveal more of vital importance to the community than a study of those at the head of thousands of smaller companies ;" and they are able to start such a study by naming the two hundred corporations and giving fairly precise details as to where control is vested in each case. And here a second fact emerges, more staggering than the first. The predominant type of controller is not some compact minority group of shareholders holding a sufficient proportion of shares to ensure, with proxies, a 51 per cent. majority of actual votes cast at shareholders' meeting, but a type holding practically no shares at all. Where is the entrepreneur? What becomes of the Golden Rule that control goes with risk? Nothing is left but a board of " managing " directors who control, and of " sleeping " shareholders who own; there is apparently no controlling ownership or owning controllership. Here is a bare summary of the statistics. Ultimate control by minority shareholders is true for only 14 per cent. of the aggregate capital owned by the two hundred biggest corporations; control by practically share-less managers is true for 58 per cent. of the capital. The other types of control that prove to be of insignificant importance are control by private ownership (*e.g.* Ford's) 4 per cent.; and by a majority of owners, 2 per cent. There remains 22 per cent. of the capital, controlled by some legal device such as the holding company or special vote-weighted stock.

The facts thus disclosed justify the authors in indulging (Book IV) in some pretty philosophy. What has become of the profit motive? Why should comparatively share-less directors strive for efficiency? What has become of the property-rights of a shareholder? The authors can only answer in terms of communism. " This corporate development represents a far greater approach towards communist modalities than appears anywhere else in our system. It is an odd paradox that a corporate board of directors and a communist committee of commissars should so nearly meet in a common contention " (p. 278). The " capitalist " shareholder has sold his rights for a mess of pottage; in exchange for a share in control he gets the continuous chance of selling out by means of the Stock Exchange, and this liquidity is, apparently, all that the hundreds of thousands of American shareholders desire.

This brings us to Mr. Berle's second book, collaborating here with Miss Pederson. The crux of this work on *Liquid Claims*

and National Wealth is the discovery that the proportion of national wealth formed by liquid resources (*i.e.* bank deposits, PLUS insurance policies' cash surrender values, PLUS market value of domestic stocks and bonds less finance securities, MINUS certain deductions for overlapping) had increased from 20 per cent. in 1912 to 28 per cent. in 1926, and to 40 per cent. in 1930. Obviously this has an important bearing upon the crash of 1930, and (as the authors point out) if the trend continues, on future crashes. But before becoming alarmed one would like more information and discussion of the methods of valuing the "national wealth" that forms the denominator of the percentages. Was this valuation physical and objective, or economic and dependent on the current rate of interest? As it is, we are merely given a reference (p. 218) to official figures.

The book is clearly written and scrupulously separates history, analysis and statistics in Part I from the observations, speculations and interpretations of the authors in Part II. There is an admirably thorough analysis of the conception of liquidity distinguishable as "shiftability" or "marketability with price stability" as against the older notion of a maturing self-liquidating asset flowing towards consumption. Unquestionably the authors are working an important line of research into the economic conjuncture that economists should keep well in sight.

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Planning for Employment: a Preliminary Study by Some Members of Parliament. (London: Macmillan & Co. Pp. xii + 97. 2*s.*)

Pleasures of Planning. By I. M. HOROBIN, M.P. (London: Macmillan & Co. Pp. ix + 192. 4*s.* 6*d.*)

Principles of Economic Planning. By G. D. H. COLE. (London: Macmillan & Co. Pp. xxiii + 435. 6*s.*)

PLANNING may have such a wide or such a narrow connotation that one is inclined to recommend writing the word accordingly with a large, or with a small p. Businesses often have planning departments that merely exist to carry out orders, to see, for instance, that the materials, tools and men required for any operation converge upon the same place and time; and many of the grandiose planning schemes put forward to solve the nation's difficulties appear on analysis of this subsidiary order. One cannot even except *Planning for Employment*, though written by fourteen of the more progressive Members of Parliament.

Their plan is essentially to be spelled with a small p. It is (p. 10) an "attempt to regulate production in accordance with effective demand," which is in the main taken, like a business order, as given. There is not even a suggestion that demand is a curve, the amount demanded depending upon the price. What the given demand amounts to is to be left for industry to discover, oblivious of the fact that the total of industrialists in any industry can, within wide limits, make the effective demand for their products anything they like according to the price they charge. The procedure advocated is as follows :—Schemes for the organisation of an industry should, wherever possible, originate from the industry itself. Secondly, an Industrial Advisory Committee should be charged with the duty of examining schemes; this committee to be an industrial rather than a political body and to consist of persons with practical industrial experience. Thirdly, when a scheme has been approved by the committee, it must then be submitted to a vote of the industry. It is not till the final stage, when the scheme is submitted to Parliament, that we get away from the all-pervading industrialists.

The modest Parliamentarians who have framed this scheme assert and reassert that the persons best suited to devise schemes for the organisation of an industry are clearly those who are actually engaged in it. They do not inquire into the incentives of these people, and do not seem to fear that the desire for maximum or even fixed profit may lead to prices higher than necessary and therefore less demand and less employment and, incidentally, a lower standard of living. Their plan is entitled a plan for employment, but it seems rather a plan, at best, for stabilising profits. Against such a plan, ordered by the old incentives, Mr. Horobin's attack is devastating. Actual examples of such plans are accumulating fast, whether for pleasure or profit, and he is not behindhand in tearing aside catchwords and abracadabras and quoting the real results. Particularly timely is his mocking (p. 61) of the "tiresome parrot-cry" "that capital has solved the problem of production but not the problem of distribution" by pointing to the elementary confusion between technically and economically efficient production. "There is no technical difficulty now in covering England with pyramids . . . the point is that to divert the available resources of the country into these forms is an *economic* mistake, however technically efficient the engineering job may be."

Mr. Horobin's shafts do not reach Planning with a large P, however. And on the whole Mr. Cole's Planning seems to be of

that nature. He is not concerned with planning in accordance with a given effective demand, but is first of all concerned with estimating probable changes and trends in demand, *e.g.* that less food-stuffs may be required, and secondly is eager to increase demand by an expansionist policy of lower prices, a policy for which he looks to support from the "machine-men" as distinguished from the high priests of banking and (p. 6) the "tribe of lesser priests, called economists." Mr. Cole's notion of an economist appears roughly a century out of date, though his view is partly justified by the recent Regency style revival. Some modern economists would certainly support him, where machine-men might not, in finding the demand for his industrial expansion in a more equal distribution of incomes. And Mr. Cole's Planning does not, in fact, go much further than this. He does not advocate ignoring demand and boldly catering for need; a variety of Plan which Mr. Horobin dismisses (p. 91) as mere social reform or organised charity and not a great economic issue.

It is, on the contrary, the main issue of Planning; and at least one economist is disappointed that Mr. Cole has not drawn the fundamental distinction between pandering to demand however it is changing, and serving the essential requirements of the community. What a contrast might be pointed between rational schedules of foods, fuel, clothing and houseroom necessary to the full health and efficiency of the nation, drawn up, say, by the British Medical Association, and the irrational and expensively small-scale unplanned consumption of to-day and to-morrow.

Mr. Cole does not tackle planned consumption; he is economist enough to want to give people what they want, however irrational, expensive and unnecessary. His book, perhaps for this reason, consists largely of a summary of present-day facts and policies with some account of the socialist and anti-socialist attitudes towards them, rather than of plans for any radical reorganisation in the future. Particularly useful are Mr. Cole's review of the forms which the capitalist planning of single industries and of agriculture have already actually taken (Chapter VI), his description (Chapter X) of the present machinery or rather grit in the machinery of international trade, his forecast (Chapter XIII) of the future of Britain's export trades, and his survey (Chapter XIV) of the expansion and contraction of leading industries, supported by an appendix of statistics summarised from the new census of production and other official sources. Even when Mr. Cole proceeds to a forecast of planned industry in his penultimate chapter, he still takes as his basis the existing

arrangements and estimates briefly the results upon these arrangements of (*a*) bringing the unemployed back into work, (*b*) a rise in the standard of living, and (*c*) a further rise in working-class standards accompanied by a drastic redistribution of incomes.

Mr. Cole clings to demand as the criterion of what to produce, but envisages a gradually changing demand and therefore a gradually changing structure of production. His *Principles of Planning* are concerned with the methods of adapting the present organisation to the possible and indeed probable demands of the future. As such, they are eminently sensible and most of them practicable. Mr. Cole's book may be heartily recommended as a judicious and readable mixture of fact and common-sense reasoning.

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Public Works Policy. International Labour Office, Studies and Reports, Series C (Employment and Unemployment), No. 19. (Geneva, 1935. London: P. S. King & Son. Pp. iii + 166. Cloth, 5*s.* 6*d.*; paper, 4*s.*)

PUBLIC works policy as a remedy for unemployment has been constantly under review by the International Labour Organisation. The present Report, which was prepared for the 1934 Session of the International Labour Conference, deals both with the public works programmes adopted in various countries during recent years as means of mitigating the depression, and with the principles upon which a permanent public works policy for reducing economic fluctuations should be based. The various national programmes are examined with reference to their effects upon employment, their cost in relation to the resulting volume of employment, methods of financing, recruiting of labour, rates of wages paid, and hours of work.

The lack of complete and systematically compiled national statistics of public works is manifest, and in consequence it is difficult to draw reliable conclusions about the policies adopted and their effects. Thus ordinary and extraordinary expenditure are not always distinguished, while complications arise in estimating the combined effects of central and local schemes. The data available show that in only a few countries have comprehensive plans been adopted for overcoming the depression, while in many countries the volume of public works has not merely not been increased but has been reduced, often considerably, with un-

favourable effects on the labour market. On the question of cost the interesting estimate is made that on ordinary public works schemes not exclusively designed to relieve unemployment the cost per man-year of direct employment varies according to the country and nature of the work between 2,500 and 6,000 Swiss francs, with an average of about 4,000 Swiss francs (or about £270 at rates of exchange current in the spring of 1935), while for each worker directly employed on public works another is provided with six to twelve months' work in the industries supplying materials.

The proper method of financing public works is considered to be the accumulation of resources during years of good trade and the use of these resources during periods of depression. Failing this, loans should be raised, with arrangements for systematic redemption over a specified number of years. Technical plans should be prepared in anticipation of the period when they will be put in operation, and public authorities should reserve as large a part as possible of their new developments, maintenance, and repair work for periods of depression; in practice they have only rarely adopted this policy. The most satisfactory results are obtained when labour is recruited from the public employment exchanges, while current rates of wages should generally be paid, but hours of work may with advantage be somewhat shorter than those in private industry.

The most striking conclusion of the survey is the great lack of centralised co-ordination and advance technical and financial planning, and the authors propose that a single central authority, which would decentralise much detailed work but would undertake a unified control of policy, is essential in each country if national public works are to be planned so as to act as a governor for the economic machine. The need is also indicated for an international body to co-ordinate national plans so that, by the careful timing of simultaneous action along similar lines in different countries, especially creditor countries in the first instance, any adverse effects upon monetary policy, gold reserves and the foreign exchanges, which result if countries act alone or independently, may be avoided. The international authority could also act as a clearing house for information and exchange of experience, and could undertake co-ordination of international public works directly affecting several countries or of national works financed from an international loan fund.

In addition to giving a valuable summary of the information available on the policies and practices of the different countries,

the Report makes out a strong case for a co-ordinated public works policy as a permanent feature of the economic system. The systematic application in the chief countries of a public works policy along the lines suggested would make a considerable contribution towards reducing the amplitude of cyclical fluctuations and would be a factor in the establishment of greater monetary stability. To achieve these objects systematic and comprehensive national plans and their international co-ordination are necessary.

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Economic Planning in Soviet Russia. By BORIS BRUTZKUS, with a Foreword by F. A. HAYEK. (Routledge & Sons. 1935. Pp. 234. 10*s*. 6*d*. net.)

Collectivist Economic Planning. Edited by F. A. VON HAYEK. (Routledge & Sons. 1935. Pp. 290. 10*s*. 6*d*. net.)

THESE two volumes, together with a translation (yet to appear) of Mises' *Die Gemeinwirtschaft*, constitute a formidable counter-attack by *laissez-faire* on all forms of planning, and in particular on Socialism. The economic impossibility of Socialism is held to follow as a direct corollary of economic theory. Economic theory deduces certain general laws or (in Prof. Hayek's words) "inherent necessities determined by the permanent nature of the constituting elements" of the economic problem; and since "the economic problem arises as soon as different purposes compete for the available resources," any economic society must be ruled by such "general laws." Wherever "different purposes compete for limited resources" there arises a problem of value and a problem of cost. Without the objective data of a free competitive market, how can this problem be solved in any rational and consistent way? How know which of two heterogeneous groups of resources has the greater value or which of two methods of production involves the lesser cost? Economic rationality and economic calculation, product of the epoch of the free market, in a Socialist economy, says Professor Mises, must disappear.

Of the two books the former, by an *émigré* Russian economist, is the less important. Its interest lies in the reprint (constituting the first half of the book) of a theoretical critique of Socialism, delivered as lectures in Russia in 1920, which independently expounded the same thesis that Mises was simultaneously expounding in Vienna. The remainder of the book is an attempt to justify his thesis with reference to subsequent economic events

in U.S.S.R. The author has had no direct contact with his country for the last decade, and there will be little new to those acquainted with such publications as the Birmingham Memoranda. Like the latter the author seems to rely extensively on Prokopovitch's bureau at Prague. The thesis of this study is that such progress as Russia made prior to 1929 was due to the partial reintroduction of a market; while the subsequent " destruction of the market " has brought chaos and disaster. While the first Five Year Plan achieved some " remarkable successes " in the development of heavy industry, this construction work " is not governed by the principle of profitability," and consequently many of the new plants are " much too expensive " to yield any return and " it is even probable that their receipts will not cover their running expenses." M. Brutzkus has one or two picturesque exaggerations, as when he says that " on the eve of the World War " the progress of Russian industry " demanded no sacrifice from the people " (p. 229) and that the loss of " millions of pounds of fish at Astrakhan " because " the fishers failed to obtain nets " could not possibly occur under capitalism (p. 47).

The second book includes a reprint of an article of N. G. Pierson, in 1902, the original article on *Die Wirtschaftsrechnung* by Prof. Mises in 1920, and an article by Prof. Georg Halm. Prof. Hayek contributes a lucid and persuasive introduction; and at the end replies to Socialist critics in a chapter entitled " The Present State of the Debate." In an appendix is printed a translation of the article which Barone wrote in 1908 to prove that the " Minister of Production in the Collectivist State " would have to follow similar laws to those which rule under *laissez-faire*. As variants on a single theme these essays are cogent and impressive, if each largely repetitive of the others. Their interest to an English audience will lie less in the novel statement of a problem, which is by now familiar to discussion in this country, than in their historical interest in providing in translation the classic statement of this school of thought. Among Socialists and anti-Socialists alike the book is likely to constitute the text-book of debate for some time.

But in its substance the argument seems to be less of a finely wrought piece of logic than in its form; and the dogmatic air with which Professors Mises and Halm produce their devastating corollaries seems to hide some confusion between two distinct things : between the process of calculation and the source of the data for calculation. The *forte* of the Mises–Halm case is that the former is impossible without a market. But is a self-con-

tained combine such as Ford or Farbenindustrie I.G. necessarily uneconomic, doomed to uncalculating irrationality, because there is no "internal market" to rule its interstitial relations? Prof. Halm replies that Ford's calculations are based on valuations which he accepts from an *external* market. But this is a question of the *source* of the data of the calculation. Rational calculation presumably means the achievement of quantitative consistency in the distribution of resources. This clearly can exist provided any scale of priorities among different products can be adopted at all. The debate, therefore, resolves itself into a question of the superiority of the priority-scale established by a market over a priority-scale established in any other conceivable way. This the authors (in their anxiety to exclude any discussion about "ends") seem to assume with a readiness bordering on *naïveté*. Prof. Halm actually declares that "in an economy governed by private gain . . . profitability and productivity are identical" (p. 148). Apart from the familiar exceptions to this proposition, it would seem as though the authors were altogether too anxious to have us assume without question that the consumer necessarily knows what he "needs" and is competent to express it on a market, and that consumers acting *qua* individual units will necessarily register the (socially) most economical choice.

Even so, very few brands of Socialism propose to banish a free consumers' market, even if they do not accept its full sovereignty. The real issue concerns the market for factors of production. Here Prof. Halm is, surely, misleading. He asserts that a *separate* problem of the valuation of producers' goods remains: remains, that is, to be determined separately from the valuation of consumers' goods. But the problem of producers' goods (whether it take a market form or not) is one of the distribution of resources in the most productive way. The data required for such a distribution consist in the physical productivity of resources in different uses (a technical fact), the available resources and the valuation of the products; and no separate problem apart from this arises. If this physical productivity cannot be known, then the private entrepreneur no more than the planning authority can distribute resources rationally. To say that such data concerning relative productivities are too complex to be comprehended in the decision of a planning authority seems to assume without sufficient warrant that such data cannot be expressed in quantitative form, and hence *generalised*, and that the constituent elements in a *general* decision are incapable of being decentralised.

There is a final consideration which both this volume and the sponsors of a hybrid planned-cum-competitive economy, whom Prof. Hayek criticises, apparently ignore. They imply that the achievements of a market-determined system are to be judged alone in terms of the "equilibrium" which the market *tends* to establish. Yet such an equilibrium is only reached through the mechanism of fluctuations, which are themselves costly and which are themselves conditioned by the uncertainties inherent in production for a market when each autonomous decision is necessarily "blind" in part with respect to related decisions. A market-system must be judged also in terms of the degree of *dis*equilibrium which exists at any one point of time and the cost of the fluctuations incidental to the equilibrating tendency. The advantage of a planned economy *per se* consists in removing the uncertainties inherent in a market with diffused and autonomous decisions, or it consists in nothing at all. For instance, a decision as to the distribution of capital is dependent upon the decision as to how much of the national income is to be invested, and *vice versa* (logically they are aspects of the same decision); and if either is made independently, and hence in ignorance of the other, it will be inconsistent and wrong. This inconsistency a market-system can only correct *after* the event; and this may be years after, and even decades after.

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Industrial Germany. By HERMANN LEVY. (Cambridge University Press. 1935. Pp. x + 245. 12*s.* 6*d.*)

THE title of Professor Levy's book, as he himself admits, is a little misleading. He is concerned less with the general aspects of the industrial organisation of Germany than with a comparison of German and British attitudes to monopolies and cartels. German industrial conditions are studied only in so far as they are relevant to that problem. He sets out first to inquire what are the various conditions that are necessary for the formation of trusts and cartels, and examines their relative importance in the two countries. But he does not remain content with the stating of a number of causes, each of which in different conditions, in different industries, and in different countries may have been partly or chiefly responsible for the growth of cartels and trusts. He goes on to seek for one single cause out of all these, which is to be regarded as "the essential condition." "We must reject the idea that a number of different circumstances

was responsible for it. Eclectic explanation is no use in this case. We cannot imagine that after a long period of free competition in industries, whose essential capitalist structure does not differ essentially from that of our days—or differed at any rate more in its dimensions than in its basic elements—a series of very different circumstances would have arisen to bring about that new form of organisation which we call industrial combination."

He dismisses various explanations which have been offered. He will not admit that cartels are *Kinder der Not*, emergency expedients springing from industrial fluctuations, though a far stronger case than he would appear to allow might be made for this view. The growth to its present dimension of trade cycle would coincide closely with the growth of the phenomena that he is seeking to explain. Nor will he admit the argument, often used in Germany, that monopolies arise from the existence of raw materials so located that they can without difficulty be monopolised. Though many monopolies, and in particular the potash and the various iron and steel cartels, are based on such opportunities, the single explanation is not to be found here. He dismisses, also, the suggestion that monopolisation depends upon the subjective attitude of the industrial community to combination, upon its *subjective Kartellfähigkeit*. It would, he argues, be powerless to bring about combination if the objective conditions were not favourable. He touches also more than once in passing, but very much too lightly to satisfy the ordinary English reader, the suggestion that combination is dependent on protection. "We know to-day," he says, "that there may be monopolies of producers in free trade industries as well as in protected ones, and there are examples to show that protective tariffs by no means necessitate the formation of cartels and trusts, as may be shown by the paucity of effective combines in the highly protected German cotton-spinning and weaving industries." One wishes that he had paused to quote instances of cartellised national industries protected neither by tariffs, nor by patents, nor by differences of national tastes, nor by transport costs, nor by international cartels. They are, in fact, I think, by no means easy to discover.

After rejecting these and other possible explanations, Professor Levy reaches the conclusion that "the final and definitive explanation of the movement must be sought in the development of concentration in industry." By "concentration" he means not only concentration of production in large units, but also local concentration of those units. This concentration in

its turn he regards as a consequence of the concentration of markets, and the improvement of transport facilities. But is this not to confuse the scale of the economic system as a whole with the form of its organisation? Certainly improvements of transport have made the geographical concentration of production for a national, or indeed for a world, market easier. But they have diminished the opportunities for monopolisation of local markets. We might expect to find cartels only on a national or an international scale, but we should not expect to find improved transport facilities leading to the supplanting of freedom of trade by combination.

But has this supplanting, in fact, occurred? Is it not rather the case that the scale of combination has itself increased with the increased scale of the economic system as a whole? Where particular factors resulted in the eighteenth century in the concentration of production, as in the case of coal production for the London market, combination, granted the necessary advantages to be secured by it and the necessary difficulties of outside competition, emerged at least as easily as it does to-day. But even apart from these difficulties, concentration as interpreted by Professor Levy becomes in the last analysis little more than one of the necessary conditions of that *subjective Kartellfähigkeit* that he has already rejected. Coal producers are willing to combine when they are geographically concentrated, and are serving a single more or less homogeneous market. They are unwilling to combine when they are scattered and serving heterogeneous markets. One wishes that Professor Levy had paid more attention to this question of heterogeneity of the product. There is a world of difference between the problems of cartellisation in, let us say, the potash industry, and in the British cotton or even coal industry, with specialised firms selling different products in a number of different markets.

But even if one disputes Professor Levy's ultimate solution and remains sceptical regarding the singleness of the explanation to be discovered, one need as little be deterred from examining the problems in his company as one might be by similar murmurings of doubt regarding the powers of St. Thomas of Canterbury from riding with Chaucer along the Pilgrims' Way. It is the country traversed and the company that matters fully as much as the ultimate pursuit. And in the course of the book some extremely interesting problems are encountered. It is in the chapters in which he is dealing with the comparative legal positions in the two countries that Professor Levy is at the same time

most interesting and, to the English reader, most original. This part of his book, and those parts which deal with the internal reorganisation of such concerns as the Vereinigte Stahlwerke, in particular deserve study. AUSTIN ROBINSON

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America's Capacity to Produce. By E. G. NOURSE and Associates. (The Brookings Institution. 1934. Pp. 608. $3.50.)

America's Capacity to Consume. By M. LEVEN, H. G. MOULTON and C. A. WARBURTON. (The Brookings Institution. 1934. Pp. 272. $3.00.)

The Formation of Capital. By H. G. MOULTON. (The Brookings Institution. 1935. Pp. 207. $2.50.)

THESE books are the first three of a series of four comprising a study by the Institute of Economics of the Brookings Institution, the purpose of which is to "determine whether the existing distribution of income in the United States tends to impede the efficient functioning of the economic system." It is implied that such a study is necessary to estimate whether a capitalist society, rather than fascism or communism, can be found which will allow stable economic progress with full utilisation of the means of production. In particular, those responsible for the study appear to hold under-consumptionist theories, and take this means of examining the problem to see if over-saving is responsible for America's present ills. The study covers a period from the first decade of this century up to 1930, omitting the confusion of the present slump. These first three books are largely descriptive; in the fourth we are promised "interpretation, diagnosis and possibly prescription."

America's Capacity to Produce opens the series with an attempt to answer two questions; the first, "Has plant capacity shown a tendency to accumulate so fast as to outrun opportunity for its productive use?" and second, "Did actual production in 1925–29 utilise full productive capacity?" and "If not, how much latent productivity was there which might have been drawn upon for the satisfaction of our people's wants?" The answer found to the first question is that there was no noticeable tendency for the proportion of excess capacity to increase over the period, except in the case of transportation, where it can be attributed to the rise of the motor-car and public roads combined with increasing efficiency of railroad operation. In answer to the second question, the authors find that in general during the "boom"

years, capital equipment was utilised at fractions ranging from 70 to 85 per cent. of capacity, of course with certain industries well outside these limits. They conclude that American industrial plant was capable of normally producing about one-fifth more than it did in 1929. And they maintain that there was sufficient (indeed they find, *just* sufficient) "labour slack" in the form of unemployed and under-employed labourers, available to operate industry at this higher output.

Agriculture, mining, manufacturing, electric power production and transport are covered in detail, with many estimates drawn from trade and technical publications as well as interesting statements from business men, engineers and officials. The short chapter on labour, however, seems inadequate, even when supplemented by an appendix which is largely concerned with refining the statistics of occupied workers attached to the various industries. Estimates of unemployment in 1925–29 are based largely upon Mr. Nathan's revision of the unemployment census of April 1930, and although some other data have been used, the evidence for the estimates given is rather slender. The importance of unemployment and under-employment in determining productive possibilities would seem to have justified a much fuller treatment based upon what admittedly scanty information exists, and some consideration of the trend of unemployment.

The statistical and descriptive evidence in regard to plant capacity appears sufficient to justify the conclusion about the trend of utilisation, but is less convincing about the reserves of capacity existing in the late 'twenties. The whole problem has been treated as an engineering rather than an economic one, and the relation of capacity to costs and price, as well as to the production of other industries, both rival and complementary, has not been dealt with. But, though disappointing in its economic analysis, the considerable descriptive material makes the book very useful to those interested in its important problems.

America's Capacity to Consume is concerned largely with the amount, distribution and utilisation of income from 1909 to 1929. In Part I are presented figures for the National Income, its industrial origin and its functional division, based largely on King's estimates. An interesting chapter on the geographical distribution illustrates the amazing variation in income per head in the individual states from $1365 in New York to $261 in South Carolina. About 90 separate sample studies are used to build up estimates of the number of families in different income ranges, given separately for the quarter of the population living on farms.

Part II contains estimates of the disposition of income by these families in the different income groups, also based on many sample studies. It is interesting to find from these admittedly rough figures, that about 85 per cent. of the total personal saving in 1929 was done by the 10 per cent. of families which had incomes over $4,600. It is shown that corporate saving is only about one-eighth of personal saving, and shows no tendency to increase as a fraction of the National Income. These figures on saving lead up to the main conclusion of the book, which is that increasing incomes, and particularly increasing inequality of incomes, were leading to increased saving during the ten years up to 1929. However, the evidence on increasing inequality of incomes is small and not conclusive, which justifies the scepticism expressed by Mr. Warburton in a footnote of reservation. Part III is a summary of conclusions, most of which are not surprising, but apparently essential medicine for the public mind. There is also a chapter to convince surfeited capitalists that the American people had not reached the material limits of consumption in the boom years. The detailed statistical matter is collected in long appendices, making the actual text, which is well illustrated, quite easy to read despite its purely statistical nature.

In *The Formation of Capital*, after a brief and elementary discussion of the nature of money income and capital formation, Professor Moulton poses "An Economic Dilemma": "In order to accumulate money savings, we must decrease our expenditure for consumption, but in order to expand capital goods profitably, we must increase our expenditure for consumption." He criticises the classical economic theory which, he says, did not face this problem, and goes on to cite historical evidence showing that consumption and capital formation have usually expanded or contracted together, rather than as alternatives as the classical theory would suggest. Examining more historical cases he concludes that changes in consumption, often of residential buildings, have usually started first. He admits, however, that the impulse may come from either side.

Professor Moulton proceeds to show that, in fact, it is the commercial banking system which enables society to escape his dilemma. Expansion of bank credits enables consumption and saving-cum-investment to expand together, which after a time can occur without credit expansion, as both the increasing consumption and saving come from increasing incomes. It is rather unfortunate that these points were not further discussed, and related to the rate of interest, which is hardly mentioned in the book at

all. Professor Moulton, however, hurries on to his main point, that savings, as a result of the larger and more unequal incomes of the 1920's, were increasing faster than consumption. It is argued that these extra savings were not going to form capital because no increase of excess capital was in evidence. The explanation of this, Professor Moulton finds to be, "the excess savings were absorbed, dissipated in bidding up the prices of existing securities."

Against these later points, it may be argued, firstly, that the increased savings could show themselves in the use of more capital, not necessarily in excess capital. Secondly, bidding up the price level of existing securities cannot absorb saving from ordinary income, inasmuch as what the buyer invests the seller disinvests. Here the use of a definition of personal income, including capital gains from sale of assets, used for statistical reasons in *America's Capacity to Consume* seems to have led Professor Moulton into a fallacy, unless the only increased savings were those from capital gains.

However, the general argument of the series, that an increasing tendency to save has been preventing the United States from fully utilising her resources, is quite plausible. It is interesting to note this argument, founded largely on empirical data, tending somewhat towards Mr. Keynes' monetary theory, and it is to be hoped the latter will be considered in the final book of the series in addition to the views of those theorists whom Professor Moulton discusses in an appendix. This series of books should undoubtedly help in determining what was actually happening in that much-discussed but little understood American "boom."

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The British Way to Recovery. By Herbert Heaton. Pp. viii + 184. (University of Minnesota Press : London, Humphrey Milford. 1935. 8*s.* 6*d.*)

Professor Heaton, an Englishman by birth, has taught economics at Birmingham, in Australia, in Canada, and latterly at Minneapolis : he was thus well qualified for the task which he has undertaken in this unpretentious and admirable little book, namely, to explain to American students what Great Britain and various other parts of the British Commonwealth have been up to since 1931. Not to American students alone will this book come as a boon : English readers also, whether learned or un-

learned in economic science, will find it an extremely lucid, readable and acute summary of what has been going on in their country.

Professor Heaton's thesis is that, of the things done or attempted in the American New Deal, there are some which England did not need to do, for she had done them long ago, others which the special nature of her problems precluded her from attempting; but that "the crowded years since August 1931 destroy any belief that the British Government has been letting nature take its course in lifting the country out of depression. . . . There has been relief, reform, regulation, reorganisation, protection, subsidies, and at some points an extension of state control that deserves the label of regimentation."

Accordingly, his first few chapters set out how the solid fabric of Britain's social legislation, and the strength of her banking system and civil service, rendered unnecessary in her case the improvisations attempted in these fields in the United States: while, on the other hand, the magnitude of her National Debt and the distress of her staple export trades complicated for her the problem of coping with the onset of depression. The following chapters contain a clear and orderly exposition of the actions of the National Government in the fields of public finance, credit and exchange, tariffs and trade agreements, agricultural and industrial reorganisation, shipping and house-building. Two final chapters on "Australia—'First In and First Out'" and "Canada Muddles Through" excellently round off the book.

Professor Heaton's desire to explain to his American friends that Britain has not sat still with folded hands does not render him blindly uncritical of what has been done. There is a pleasantly astringent flavour in some of his comments—notably on the birth of the giant Cunarder (p. 117) and the dealings of British commercial policy with the dependent Empire (p. 105). Some, no doubt, will feel that he might have permitted himself a little more astringence *à propos* of such matters as the "rough attempt to achieve equality of sacrifice" in 1931 (p. 52) and the policy of keeping "the milk from flowing into the 'liquid market' where prices are higher" (p. 89)—a little more scepticism about the size of the hole which has been made in the housing problem and a little less scepticism about the scope which English conditions offered for the expansion, or at any rate the non-contraction, of expenditure on public works (pp. 117–19). But in his own (somewhat optimistic!) words, "years must pass before we can measure the effect of many plans and policies in promoting

or delaying recovery": his main object has been to record rather than to assess, and by conveying to them such a weight of information with such lightness of style he will earn the admiration and gratitude of many readers.

D. H. ROBERTSON

The Economic Consequences of Progress. By ROY GLENDAY. (London: George Routledge & Sons, Ltd. 1934. Pp. xv + 302. 12*s.* 6*d.*)

THE Economic Adviser to the Federation of British Industries has here written a book the object of which is to contribute to the task of making economics "a branch of Natural History." This is to be achieved by the rejection of deduction from fundamental premises as an essential part of the method of economic science. Mr. Glenday regards the abstract method of orthodox economics as futile, for he wrongly believes that deduction would lead to "the private prepossessions of individuals" displacing "practical experience as our guide to truth."

After this introduction, one would expect a statistical study of cyclical fluctuations, but the motto to the first chapter—a quotation from D. H. Lawrence which shows him in a particularly anti-rational mood—raises certain doubts. These are confirmed by the subsequent argument, which is only to a small extent by induction. Mr. Glenday still uses, especially in his treatment of monetary problems, the accepted technique of theoretical economic analysis which he professes to despise; for the rest, he relies on argument by analogy, drawn mainly from biology.

In the first part of the book we are given an analysis of economic progress, consisting mainly of an exposition of the law of diminishing returns and of an attempt to apply it to progress itself. Mr. Glenday develops the law of diminishing returns from certain laws of organic growth. He is hardly fair to economic science in failing to point out that this law is one of its earliest and most lasting achievements, and he certainly fails to grasp the essential nature of economic analysis if he believes—as he appears to do—that technological considerations are necessary in order to support or contradict an economic law. It can be shown that even historically this law did not arise from technology, but that it was an interpretation of the very simple fact of experience that, beyond a certain point, an increase in the yield from the soil can only be achieved by an increase of the area under cultivation.

Similarly, no economist would admit that the ever-present

tendency to diminishing returns is incompatible with a general trend of increasing output, as Mr. Glenday seems to imply, provided that there is an increase in the supply of the factors of production and an increase in technical knowledge. In other words, an increased yield, under conditions of production when more than one factor is used, is possible through an increase in the amount of any single factor, though each will be subject to the law of diminishing returns; and capital (giving the possibility of adopting more "roundabout" methods of production) must, for this purpose, be regarded as a factor too.

In the second part, Mr. Glenday gives his version of the kind of planning which will be necessary in the future. He starts with the proposition that "change is not progress." He does not, however, rely solely on his metaphysics, but endeavours to show that because of the diminishing scope of international trade, of international capital movements, and of opportunities for profitable investment in general, we must eschew the "mad rush" for an ever-increasing economic activity and consciously plan our economic life.

Mr. Glenday's practical proposals to this end are not quite clear; but he appears to believe in some vaguely defined functional state of the "corporative" kind, which would be largely self-sufficing, in which productive capacity (and the use of machinery in general) would be reduced, in which production and distribution would be standardised, and in which consumers' choice would be considerably limited. The consequent decline in the standard of living Mr. Glenday seems to view with equanimity!

In spite of many inconsistencies and of a certain flavour of mysticism which pervades it, this is a lively and vigorously written book. Mr. Glenday's sincerity cannot be in doubt. It is all the more unfortunate to find him allied to a school of thought that can only be described as reactionary in the extreme.

ERICH ROLL

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The Economic Basis of Politics. By CHARLES A. BEARD. (London: Allen and Unwin. 1935. Pp. 99. 3*s.* 6*d.*)

THIS is the first English edition of some lectures delivered in 1916 and published in the United States in 1922. The theme is the dependence of political government on the economic interests which coexist in every civilised community. In the new Preface the author implies that he wishes to contribute to the search for

the necessities which govern human action, but he is too well-equipped with historical knowledge to claim that he has discovered, or has any immediate hope of discovering, any precise laws of causation. His conclusion is merely that the conflict of economic interests is an inescapable fact to which every political system must accommodate itself. One might suggest that inquiries of this kind are likely to be more fruitful if they set out, as Max Weber did, in search of probabilities rather than necessities.

He begins by showing how great political thinkers from Aristotle onwards recognised that the location of political power depends on the location of economic power, and in particular on the distribution of property. He then explains how the history of European governments reveals always a system of representation of "estates" or interests, until the Industrial Revolution and the teaching of Rousseau caused the triumph of the idea that men should be represented as equal individuals. Since then the theory of democracy has been in conflict with economic facts, for interests and inequality persist. Even the communism established in Russia had, he says, so far failed to eradicate these inequalities and to reconcile these interests. His analysis is weakened by his failure to discriminate clearly between social classes, functional groups and income strata and the different forms they assume in different societies. Nor does he tackle the logical dilemma that, although property gives political power, it is political power that creates property, for property is a social institution rooted in the law, and not a simple economic fact.

It was impossible for him in 1922 to assess the meaning and value of the Russian experiment, while the Fascist attempt to design a new State by restoring to the economic interests their lost political significance lay still in the future. He has rightly not attempted to bring his book up to date. It remains a stimulating introduction to one of the great problems of to-day. But it is surprising to find a study, however brief, of the relation between government and the class struggle which makes no reference to Karl Marx.

T. H. Marshall

London School of Economics.

Population Theories and their Application, with special Reference to Japan. By E. F. Penrose. (Food Research Institute, Stanford University, California. 1934. Pp. xii + 336. $3.50.)

The first part of Mr. Penrose's book is concerned with general theories of population. His chapter on the Malthusian doctrine

achieves an admirable compression of a big subject in a short space; it is a real contribution to this much-discussed theme. The two following chapters dealing with the income optimum and the welfare optimum concepts of population are breaking in part new ground. They are interesting and suggestive, but do not profess to make more than a tentative approach to a solution of the population problem. At the same time Mr. Penrose does good service in emphasising the essential relativity of the notion of an optimum population. He returns elsewhere to the same question with such comments as: "It is impossible even to discuss this concept of an income optimum population for such countries as Japan, Java and England without taking account of commercial policies" (p. 273); and "Whether or not over-population exists in a country will depend not simply on the size of the population but also on its make up" (p. 184).

Turning in Part II to Japan he is in agreement with those authorities, Japanese and others, who hold that the present rapid growth of population in that country will not last beyond about 1955, and that after that date the Japanese population will show the same tendency to a quick decline in the rate of natural increase (and for the same reasons) as in Western European countries in recent years. He holds that, despite the great increase in numbers during the last decades, the standard of living and the average *per capita* income have been rising in the country as a whole, but that there is clear evidence of a growing tendency to over-population among the agricultural section of the community. The urgent problem, as he sees it, for Japan for the next twenty years is how to absorb her growing population in other occupations than agriculture—the solution for which can only be looked for in the development of her industries.

In Part III Mr. Penrose discusses the broad social and economic implications of an expanding population in relation to such matters as migration, territorial expansion, conflict, and international trade. These matters are treated both generally and with special reference to Japan. He pleads cogently for the allowance, on a restricted basis, of Japanese immigration into Australia, California and British Columbia, and for the cessation of discriminating measures directed against Japanese goods. In regard to the latter he has no difficulty in showing both the economic loss which such policies cause to Japan and the political friction to which they give rise. It is unfortunate, however, that, in stressing this side of the question, he has given insufficient prominence to a discussion of the long-run effects of Japanese

competition upon the economic welfare of the older industrial countries. Viewing the situation realistically this is the vital consideration so far as the determination of policy is concerned, and Mr. Penrose's case would have gained in force if he had devoted more space and argument to showing that the industrial expansion of Japan is not necessarily inimical to the long-run interests of other industrial States. He discusses the recent Japanese policy in Manchukuo and concludes that this is *not* (as Japanese apologists claim) the necessary outcome of an irresistible pressure of population upon subsistence, and that it is calculated rather to aggravate than to relieve Japan's economic difficulties.

On the more general side, Mr. Penrose's standpoint may be defined by saying that he envisages the central population problem as essentially a problem of the *regional* distribution of resources, including population itself, both within each individual country and between countries.

Mr. Penrose has come to his subject with a fresh mind and a conspicuous absence of preconceived ideas; as a result he has written a book which is really worth reading. It has the great merit of lifting the treatment of population problems out of the doctrinaire lines into which it has tended to fall and of placing it upon a wider and much more realistic basis.

C. W. GUILLEBAUD

Economic Planning and the Tariff : an Essay on Social Philosophy. By JAMES GERALD SMITH. (Princeton : Princeton University Press; Oxford University Press. 1934. Pp. x + 332. 13*s.* 6*d.*)

THIS book seeks to diagnose the economic ills of the United States of America. The tariff, says the author, though not the sole cause, lies at the root of the malady. Its maintenance in its present form makes inevitable the restriction of agricultural production now being undertaken by the A.A.A. and the virtual abandonment of debt payments by foreigners. Previous governments had curtailed the market for farm products by checking imports through the tariff and at the same time had sought to maintain agricultural production by extending credits to farmers on specially easy terms, while creating markets by means of over-generous foreign lending. Mr. Roosevelt's New Deal, designed to rescue the nation from the confusion which resulted from these contradictory policies, can never succeed so long as he maintains the tariff in its present form and at present levels. Dr. Smith

traverses familiar ground in exposing once again—alas, not unnecessarily—the common Protectionist fallacies, such as the claim that tariffs are necessary to maintain the American standard of living. One can easily agree with him in these arguments, both general and particular.

But he attempts something more than a demonstration of the futility of Protection and the contradictions of American policy. He seeks to identify these contradictions with Economic Planning. The tariff was Planning; easy credit for farmers was Planning; maintenance of a stable general level of prices was Planning; reckless foreign lending was Planning. Yet he recognises in the opening sentences of his book that these experiments of the State or the Central Banks do not deserve the name of Planning. "Not long ago," he says, "to advocate economic planning meant something definite, even if it was Utopian. Economic planning connotated (*sic*) Socialism or Communism." He goes on to claim: "More recently, the argumentative advantages inherent in the very idea of 'planning' has (*sic*) been recognised in this propagandist age by the wily capitalists. In Fascist countries the capitalists are stealing the thunder of the critical Liberal and Socialistic or Communistic groups by developing an economic Planning of their own." Surely, the conclusion is that what has so far been attempted in America is not Planning at all, because it lacks any central scheme, but consists in opportunist remedies devised and applied *ad hoc* to each situation as it arises. Planning involves State interference, but every piece of State interference is not Planning.

Unfortunately, Dr. Smith is not prepared to admit this. Terming the misguided American policies Planning, he then proceeds to use their contradictory nature as a stick wherewith to beat every advocate of Planning, and indeed every advocate of social theories with which he disagrees. He finds it easy to ridicule Dr. Robert Eisler and the luckless Professor George Warren. But he does not attempt to criticise in detail the formidable advocates of Planning. He makes references to "this school of thought," and "the 'inevitable tendency' doctrinaires," and he lets it be known that he dislikes both behaviourist psychology and the doctrine of plural sovereignty. But the sections of his book in which he discusses these questions left upon the mind of at least one reader an impression of baffling vagueness.

It is easy to show that attempts to bolster up inefficient industries by tariffs, or redundant agriculture by subsidies, or to preserve the incomes of selected groups by organised restriction of

output are not only foolish but ultimately suicidal. But the very simplicity of the demonstration raises the question : Why do these attempts persist ? Dr. Smith suggests that the answer is : stupidity. He points out, for example, that in the second half of the nineteenth century Great Britain enjoyed, under Free Trade, a period of rapid economic expansion, and sadly adds, "the lesson was learned, but, alas, too quickly forgotten." Surely there must be some explanation of this amnesia. Protectionism is only one of a hundred persistent institutions which impede the smooth working of the economic system in the production and the distribution of wealth. Dr. Smith accuses his opponents of ignorance of the profound reasoning of great economists and social philosophers. Is it not, rather, that, finding so many " exceptions " in the real world to the harmonies of the " scientific " theory, they seek, by particular studies, to examine the nature of those institutions, thinking such study at least as important as the devising of subtle refinements of theory based upon hypothetical cases ?

Dr. Smith is in an uneasy position, somewhere between the " rugged individualism " which is only a cloak for the maintenance of monopoly profits and the positive planning which he detests. His own programme of reform includes unemployment insurance, dismissal allowances, prohibition of child labour, taxation of large incomes, public works policy to stimulate recovery from depressions, " a moderate downward revision of our present extremely high tariff duties," and " the development of an American code of fair practice in international trade, applying to exports as well as to imports." These are not unreasonable proposals in themselves, and a powerful case may be made for such a Liberal policy. But it is surprising to find Dr. Smith attempting to buttress the case for his policy by calling it a Plan ! By using this word in several different senses he has increased rather than reduced his readers' bewilderment.

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Scritti e Discorsi di Economia e Finanza. By LEONE WOLLEMBORG. With a Preface by PROFESSOR AUGUSTO GRAZIANI. (Torino : Bocca, 1935. Pp. xxviii + 696. 40 *l.*)

LEONE WOLLEMBORG was born at Padua in 1859 and died in 1932. He took his Doctorate at the University of Padua in 1878 with a thesis on " Relative Cost of Production as a Basis for the

Determination of Value." In the 'eighties he threw himself with great vigour into the study of consumers' co-operation, and of co-operative credit institutions, on the Raiffeisen model, in rural areas. And he did much to popularise and multiply such institutions in his native Veneto. He was a member of the Italian Chamber of Deputies from 1892 to 1913, and of the Senate from 1914 onwards. It is not clear whether he remained a Senator until his death, but his last important speech in that Assembly was apparently delivered in December 1926.

As a Parliamentarian he specialised, and often spoke, on questions of public finance. In 1901 he became Minister of Finance in the Cabinet of Zanardelli, and prepared an ambitious scheme for the reform of taxation, both national and local. But he failed to persuade his colleagues in the Ministry to accept his scheme, and thereupon resigned. His principal achievement, as a Minister, was the provision of cheap quinine, the quality of which was guaranteed by State inspection, as a means of combating malaria.

This book contains a selection from his writings and speeches, buttressed by a full bibliographical record. Nearly half the book consists of speeches in Parliament. Professor Graziani contributes a laudatory preface.

Wollemborg was of a type in which pre-Fascist Italy was unusually rich, combining theoretical interests with practical activities, and carrying expert knowledge into public life. This type may be emerging less easily since the March on Rome. There is some evidence for suspecting that the Fascist régime, which has led, in literature at any rate, to a certain intellectual impoverishment, has not been less unfortunate in other spheres.

In his abortive project of financial reform in 1901, Wollemborg was in advance of his time. Some of his ideas, which were then rejected, have since been adopted. His proposals included the handing over to local authorities of most taxes on real property, the abolition of nearly all internal taxes on consumption, the creation, for national purposes, of a general income-tax, assessed on a progressive scale upon personal income and subject to allowances for dependants, and an increase, also on a progressive scale, of death duties. It was not till eight years later that a British Chancellor of the Exchequer applied the principles which Wollemborg suggested to the British income-tax.

HUGH DALTON

Essays of William Graham Sumner. Edited by A. G. KELLER and M. R. DAVIE. 2 vols. (Yale University Press and Oxford University Press. Pp. xix + 499 and viii + 534. 13*s.* 6*d.* each.)

THE name of Sumner is not familiar to this generation of English economists, although the obituary in this JOURNAL twenty-five years ago indicates that he was better known then. The reason is that he was not really an economist. Even his chair at Yale which he held for thirty-seven years was in Political and Social Science, and it was upon sociology rather than upon economics in America that he left his mark. We must take seriously his statement in 1889 about his economic education: "My first interest in political economy came from Harriet Martineau's *Illustrations of Political Economy*, when I was thirteen or fourteen [*circa* 1853]. . . . In college we read and recited Wayland's *Political Economy*, but I believe my conceptions of capital, labour, money and trade were all formed by those books which I read in my boyhood." His economic analysis, if we may judge by his published work, never became more technical than it was in 1874 in his history of American Currency. As time went on his interest in economics did not increase; it was as a sociologist that he became erudite, his *Folkways: A Study of the Sociological Importance of Usages, Manners, Customs, Mores and Morals* (1907) being a monument to his learning.

The concept of the *mores* occupies a central part in Sumner's thought. It is best explained in his own phrase: "customs have grown up from the unavoidable compromise between metaphysical dogmas and life interests, and these customs, so far as they inhere in essential traits of human nature or in fundamental conditions of human life, or as far as they have taken on the sanctity of wide and ancient authority, so that they seem to be above discussion, are the *mores*." Anything which has become by selection a custom is a "folkway": when a "moral and reflective judgment" as to the bearing of the custom on welfare is added, the folkway becomes a part of the *mores*. "We are all in them, born in them, and made by them."

The evolutionary basis of this idea is manifest. It led him to take that hard-headed attitude to economic reform through State action which is usually denounced as one of *laissez-faire*. He frankly detested what he called the "sentimental philosophy," which asserted that "nothing is true which is disagreeable," which encouraged "easy optimism" with respect to the possi-

bilities of improvement in society. Yet Sumner was not Panglossian in his "extreme prejudice against State interference"; there is sometimes even a note of despair in his emphasis upon the sordid and brutish aspects of life: he was simply convinced from his reading of history that the progressive *étatisation* of society would lead to disintegration as he believed it did in Rome. He detested socialism because he defined it as "any device or doctrine whose aim is to save individuals from any of the difficulties or hardships of the struggle for existence and the competition of life by the intervention of the State." To strive for an equalitarian state was necessarily to go back rather than forward.

Despite all the scientific coldness of Sumner's dissection of society, most modern readers will find his standpoint repellent: he leans too much on the assertion that the "social order is fixed by laws of nature precisely analogous to those of the physical order."

All but three of these essays have been included in previous collections. Those of an economic character show Sumner as the political agitator and economic pamphleteer. In this rôle he was brilliant and powerful. The attack upon protection (1885) will still bear reading, not for any subtle analysis but for the blunt weapons so effective in the rough and tumble of political debate. The editors have designed the volumes primarily for the general reader: they will be of little interest to the specialist, including (rather than excluding as the editors believe) the college student.

REDVERS OPIE

Kapital und Produktion. By RICHARD VON STRIGL. (Wien: Julius Springer. 1934. Pp. x + 247. *Rm.* 7.80.)

THE theory of capital and production here expounded is based upon the ideas of Menger and Böhm-Bawerk. As compared with the latter, Professor Strigl's concept of capital is much more frankly connected with the wages-fund doctrine. In real terms subsistence constitutes "free capital"; in monetary terms "money capital" is command over subsistence; and in each case the capital characteristic depends upon the decision of the holder regarding the use to which the means are to be put.

Of the three chapters in the book, the first two are directed to show that questions concerning the use of capital are identical with the problem of the "structure of production." Fixed capital is shown to be connected with the problem of roundabout

processes because of renewals and because free capital is complementary to fixed. The length of the productive process must be such that the fund of free capital is adequate to the demands upon it for renewing and operating fixed capital. The subsistence fund is a factor of production and it must be distributed throughout the "time structure" of production in conformity with the "law of cost" (*i.e.* cost equals marginal product).

The maintenance of the proper structure of production depends on the maintenance of the appropriate horizontal and vertical price relationships. This gives the starting-point of Chapter III (Money and Capital). Given the static assumptions underlying the greater part of these chapters, the introduction of money and the regulation of the structure of production by the money rate of interest involve no change of principle as compared with the barter economy: the "natural" or "equilibrium" rate of interest equates the demand for with the supply of subsistence. Any injection of new money in the static state sets up changes in the structure of production; and in this respect hoarding and dishoarding, or changes in the integration of industry are regarded as having the same effects as changes in the quantity of money. Since money is said by Professor Strigl to be neutral when the monetary conditions are such as to allow the stationary functioning (*Ablauf*) of the system, neutral money and a stationary state both mean a constant volume of money in the wide sense.

This brings him to the analysis of production under the influence of credit expansion (Chapter III, pp. 180–99). Increased credit leads to a lower rate of interest and so to an "undue" lengthening of processes, which in turn means that capital is "immobilised," *i.e.* is not set free at the proper time. The new credit increases the prices and output of subsistence. But this increase means capital consumption. Thus the two effects of expanding credit are immobilisation and consumption of capital. Professor Strigl says it is self-evident that the increase of "capital" by increasing the output of consumers' goods can never allow the longer processes to be completed. But this is just the point where argument in detail is required: the shadowy statements in the text (pp. 195–6) cannot be regarded as a proof. The reader is left with the conviction that there remains a complicated question of the relation between the "immobilisation" of capital and the consumption of capital.

A long appendix on the business cycle is the most interesting

part of the book. The method of analysis is no longer the "exact" one used previously, *i.e.* the static assumptions are dropped. There is a difficulty here in connecting the appendix with the preceding analysis: it is not at all clear what the dropping of the static assumptions means. The most interesting point made is that the stoppage of credit does not lead directly to an equilibrium position because the deflationary processes are cumulative, largely because bankers and entrepreneurs strive to increase their "liquidity." Money is thrown out of the *Kreislauf* during the depression, and when recovery begins these "de-capitalised" funds flow back and act as a disequilibrating element. At first Professor Strigl seems to admit that theoretically bank action may offset the effects of this disturbing factor, although he is pessimistic about the possibility of ever getting the right criteria for action. In another vein, however, he seems to deny even this potential power, because he stresses the "psychological disinclination" to invest in depression, and the power of the system to expand independently of the Central Bank in a boom, in the light of which he seems to despair of exercising control over business fluctuations. Yet, he thinks, not quite consistently, that the banks may (at most) affect the timing of the turning-points and so the intensity of crises. In the end, however, he is as sceptical of damping down the cycle as he is of stabilisation as an objective of policy.

On the whole this is the clearest statement of a theory of capital and production along the lines of Böhm-Bawerk that has yet emerged from Austria. It leaves difficulties, and a great deal of it will weary the professional reader; but it is worth attention in England. The cost of the book—short and unbound as it is—will be a great deterrent to its sale in England.

There is a slip on p. 59 when the supply of the services of land "in the usual diagrammatic representation" is said to be approximately horizontal.

REDVERS OPIE

Magdalen College,
Oxford.

Études Économétriques. By RENÉ ROY. (Paris: Recueil Sirey. 1935. Pp. 145. 20 *fr.*)

THREE articles published by Professor Roy in the *Revue d'économie politique* between 1927 and 1934 are collected together in this volume without alteration. The first article, *Les index économiques*, appearing in two numbers of the *Revue* in 1927,

is concerned with the theory and construction of price index-numbers. The theoretical discussion starts from the differential formula for a price index proposed by Professor Divisia. Particular indexes, of factor prices, wholesale and retail prices and so on, are described and an analysis is given of the division of such indexes into partial indexes representing, for example, wages or food costs. A particular study of the composition of a factor price index follows with an account of some actual indexes used in the formulation of tariff rates in certain public utility services in France.

The main interest of the theoretical study lies in the derivation of the linear form assumed for price indexes with weights equal to the basic proportions of expenditure on the various items. It is shown that the linear form has theoretical support if the quantities of the items vary proportionally over the time period of the index. This does not carry us far, since the two "limiting" indexes (of Laspeyres and Paasche) are identical in this case and either can be used as the linear price index. The linear form also holds approximately if the expenditure proportions on the items remain unaltered over time and if the price variations are small. In this case, however, it would appear that a better approximation is provided by the weighted geometric, rather than arithmetic, mean.

Professor Roy's discussion rarely penetrates below the surface. This is not surprising when it is remembered that he wrote before the appearance of the work of Haberler (1927), Bowley (1928) and others in this field. His one suggestion for the improvement of practical indexes appears to consist of the frequent revision of the weights—scarcely an epoch-making discovery.

The other two articles can be taken together in that they both relate to the concept of a demand curve and its elasticity. The earlier article is *Les lois de la demande* from the *Revue* of 1931. The static form of the demand law is here related to the distribution of incomes and described by means of its elasticity. The mathematical basis of the development appeared in an earlier article in *Metron* (1930) which does not find a place in the present volume. The main thesis put forward is that the elasticity of demand for a group of commodities is less than unity, so that total revenue increases as price increases and consumption decreases. Rough estimates of demand elasticity are obtained in the cases of various public utilities (*e.g.* gas, postal and transport services) in which changes in the tariff rates have been made from time to time. The thesis is verified in these instances; it cannot, of course, be maintained as a universal law.

The later article, *L'élasticité de la demande*, is taken from the *Revue* of 1934. It consists simply of a summary of the methods and results of Professors Moore and Schultz in the statistical estimation of demand elasticity from market data of prices and consumption. The two articles provide a convenient summary of the theoretical basis and the statistical derivation of demand elasticity. Little is added to what can be obtained from the published work of Moore, Schultz and others, but the articles probably merit their reprint in this collected form.

R. G. D. ALLEN

The Nazi Dictatorship. By ROY PASCAL. (George Routledge and Sons. 10*s*. 6*d*.)

MR. PASCAL has written an exceedingly competent book about contemporary Germany. His work has the advantages and disadvantages of being frankly tendencious. Perhaps the most admirable chapter is that which presents the theory of National Socialism with astonishing lucidity and completeness. It is, however, impossible not to observe that Mr. Pascal's working class is endowed with something very like the sanctity of Herr Rosenberg's Aryan race. No one can do more than guess at the strength of Communism in Germany to-day, but Mr. Pascal almost certainly exaggerates it. The average working man—one hears it from him constantly—agrees with Hitler that a bad wage is better than the dole, and until rearmament is complete, employment figures are unlikely to fall again. The more rebellious workers get beaten up by the S.S. for their pains, and frequently abjure political activities as their tormentors intend they shall. Most people are bored with Nazi speeches, yet they are grateful for Hitler's foreign policy.

One of the inaccuracies which follow from Mr. Pascal's enthusiasm is that he is forced to take the official Nazi view that in the winter of 1932–3 there was a real possibility of the establishment of Communism in Germany. The gravity of the Communist "menace" has all along been denied by the Berlin Correspondent of *The Times*, and by most other competent judges; the lack of able Communist leaders, to mention only one thing, was patent. Like all Communist writing, Mr. Pascal's book is an attack upon Social Democracy as the betrayer of the German working class. There is at least as good a case for saying that Social Democracy was stabbed in the back by Communism. How often in 1932 did the Communist press cry aloud, "Social

Democracy, not Fascism, is our enemy, for Fascism will play straight into our hands." But the Nazis have destroyed Communist organisation with a thoroughness unknown to other political parties; even if individual suffering can be disregarded, was it really necessary to pay so terrible a price?

Mr. Pascal makes a powerful case for regarding the Nazi dictatorship as an important stage in the development of a ruthless monopoly capitalism, yet there are several odd omissions in the story that he tells. There is, as usual, too much of Thyssen and too little of the great Westphalian industrialist Emil Kirdorf, who has controlled the employers' strike-breaking fund since 1905; for it is Kirdorf who has clung most tenaciously to a militarist conception of industrial organisation, a conception which defines employers as "leaders" and strikes as mutiny. When one considers Dr. Schacht's new levy on industry to subsidise exports, it is difficult to feel sure that even the biggest industrial capitalists are getting all that they could wish out of Hitlerism. It is otherwise with the Junkers, whom Mr. Pascal a little neglects, for since the big landowners sell a very much larger proportion of their produce than the peasants, it is they who thrive to-day on the rise in agricultural prices.

Mr. Pascal's general argument is weakened by the loan of many merely liberalistic pleas against the Satanic power of the dictatorial state, a loan which Marxist writers, it seems, never blush to make. Mr. Pascal's description of Germany's international position is marred by the absence of any reference to the agreement with Poland, the importance of which was already clear some time before he went to press. Finally, his silence with regard to the rôle of the *Reichswehr* is disappointing; the bald fact that the Army dropped Hitler in 1923 goes quite unexplained, and the remarkably interesting part played by its officers since 1932 is completely ignored.

ELIZABETH WISKEMANN

The Great Crisis and its Political Consequences. By E. VARGA. (London: Modern Books. n.d. Pp. 175. 5*s.*)
The Income Theory of Prices. By J. S. ROBERTSON. (London: Warne. 1935. Pp. 96. 3*s.* 6*d.*)
Basic Economics. By J. G. EVANS. (Chapel Hill: University of North Carolina Press. 1934. Pp. 139. $1.50.)

THE first of these books places the reviewer in a certain difficulty. Written by a former Professor of Political Economy

at Budapest, who is now Director of the Institute of World Economy and Politics in Moscow, obviously it cannot be passed over completely. But fortunately the fact that it is concerned more with political prophecy than with economic analysis makes it unnecessary for the book to be noticed at any length in this JOURNAL. As might be expected, Professor Varga concludes that the economic structure of the "capitalist" countries is but a short step from general collapse. He is not so convinced, however, of the likelihood of an early outbreak of revolution in the West, unless, of course, war should supervene. Such economic analysis as the book contains, and there is a good deal which is supposed to be relevant to the depression of 1929–34, is on well-known Marxist lines. Now, owing to the unfortunate fact that communist literature has become so overlaid with catchwords and slogans devoid of any precise and well-understood meaning, applied economics written from a Marxist standpoint (whether sound or not) requires a particularly high level of literary ability if it is to be made merely intelligible, let alone persuasive. It is not clear whether Professor Varga has written the English version himself or whether he has suffered translation. The English is readable, but as economics it is largely unintelligible. The book is illustrated by a wealth of statistics, mainly taken from League sources.

The best that can be said of Mr. Robertson is that he shows promise of one day writing a book which will be well worth reading. A commonplace account of the quantity theory leads him to wonder under precisely what conditions commodity prices should fall in order to secure equilibrium. As efficiency increases, they should certainly do so. But if the expansion of output is associated with more factors, or with a greater expenditure of effort, what then? Mr. Robertson sees the problem, but he does not go very far towards its solution. Further, he puts forward the puzzling suggestion that the earning of profits which are not distributed tends to raise prices; and his account of the factors which influence the velocity of circulation is unsatisfactory.

Mr. Evans has written a text-book which as an introduction to equilibrium theory can be recommended, particularly to commerce students who find abstraction difficult and are short of time.

HAROLD BARGER

University College,
London.

World Dislocation and World Recovery. Agriculture as the Touchstone of the Economic World Events. By Dr. W. H. C. Knapp. (London: P. S. King and Son, Ltd. 1932. Pp. viii + 203. 10*s.* 6*d.*)

The sub-title indicates the general tenor of this book, which has been awarded a prize, as being "the best work on economics of international importance," by the Committee of the International Agricultural Institute at Rome. There is much in it which an economist is little competent to judge. For example, the reasons stated in the early part of the book for the importance of agriculture in the life of society may be morally or sociologically sound; they are certainly not of an economic character. The author succeeds, however, after a dangerously long excursion into morals and technology, in entering upon economic considerations.

Dr. Knapp, as befits a Dutch scholar, is an intransigent non-interventionist. He examines briefly the fundamental notions of many schools of economics—from the Mercantilists to the modern Socialists—and comes down heavily on the side of the Physiocrats. He believes in the "natural order," but he also has very much at heart the interests of the countryside—now, as in the days of the Physiocrats, ignored and sacrificed to those of the town..

The author discusses at length the different diagnoses of the causes of the world depression and the suggested remedies. He concludes that interference with the working of economic forces through price stabilisations, faulty wage policy, tariffs, monetary manipulation, etc., is responsible for our present ills; that, therefore, nothing but a return to free competition can provide a remedy.

This book is not really a specific contribution to the agricultural problem; and the general *laissez-faire* case, while argued with some skill, could have been much compressed. The author's earnestness and obvious sincerity somewhat compensate for a tedious style.

Erich Roll

University College,
Hull.

The Hop Industry. By Hubert H. Parker. (London: P. S. King & Son, Ltd. 1934. Pp. 327. 15*s.*)

This book is a comprehensive survey of the hop industry, beginning with its introduction in this country in the sixteenth century, and concluding with present-day problems. A lengthy

description of the technique of production both in the past and in the present, and estimates of the cost of production at different periods, are followed by an analysis of the post-War economic aspects of the industry in this and other countries, and of the special marketing problems which have faced hop-growers.

In his description of the economic aspect of the British hop industry, Dr. Parker follows familiar ground, stressing the inelasticity of demand for hops of brewers—the only buyers—and the varying yield, resulting, in spite of the possibility of storage, in extreme price fluctuations from year to year. His outline of the foreign and dominion hop industries provides much material hitherto inaccessible and gives interesting comparisons with the British industry.

To the economist the most interesting section will be the description and criticism of the operations of the Hop Control and of English Hop-Growers, Ltd. Dr. Parker has drawn freely on the Hop Controller's articles in the *Journal of the Royal Agricultural Society*, but approaches the problem from a more detached position. He brings out several new points in the administration of both these bodies. In particular, he criticises the popular view that the breakdown of the voluntary association was due to the actual financial loss involved on members by the expansion of production by non-members. He presents figures to show that this loss was, in fact, very small. The force of his argument would be much strengthened if he had quoted the authority for his estimates, especially as the figures of acreage picked, given on p. 254, do not agree with the Ministry of Agriculture's acreage figures given on pp. 146 and 309. Several possible explanations of the discrepancy exist, but Dr. Parker does not mention them.

Dr. Parker concludes with a criticism of the pooling principle, and of various methods which could be used to check an expansion of production. He includes in an Appendix extracts from the Hops Marketing Scheme; his book, however, was published too soon to describe its operation.

This book provides material which will be useful to all interested in the hop industry. Its later sections will serve, in addition, as a valuable background to those who wish to appreciate the peculiar problems which face the Hops Marketing Board and call for its exceptional powers.

RUTH L. COHEN

Agricultural Economics Research Institute, Oxford.

Annuaire International de Législation Agricole, XXIIIème Année, 1933. Institut International d'Agriculture, Rome.

Considerations on the Present Evolution of Agricultural Protectionism. League of Nations, Economic Committee, Geneva, 1935.

La Nouvelle Politique Agricole Britannique. By PAUL CHAUTEMPS. (Paris : Jouve & Cie. 1935.)

Agricultural Co-operation in Fascist Italy. By FREPPEL COTTA. (P. S. King & Son, Ltd. 1935.)

THE depression has brought throughout the world a flood of measures to help agriculture through the crisis. Legislation with this end in view has mainly been concerned to control the trade in or production of agricultural products, or to relieve farmers of part of the burden of their indebtedness. The International Institute of Agriculture at Rome has once more provided an invaluable summary of agricultural legislation in the principal countries of the world. It deals with laws passed in 1933, and includes, besides legislation concerned with the crisis, legislation dealing with the more permanent problems of trade in agricultural products, of land reclamation, of agricultural credit and of land tenure. The legislation passed is outlined briefly according to subject and then detailed by subject-matter and country ; the more important laws are summarised, and the scope of the less important indicated. Finally, a chronological list is provided for each country of the agricultural legislation passed during the year.

The effect on the world situation of legislation designed to protect agriculture is considered in the pamphlet issued by the Economic Committee of the League of Nations. They publish together their observations on the development of the present extreme protection of agriculture in most importing countries, a memorandum by Sir Frederick Leith Ross on the development of agrarian protectionism since the War, and a brief note on the general evolution of agriculture, in relation to the growth of agricultural protection, in the period between the agricultural depression of the 1870's and the World War.

The Committee confine themselves to a brief criticism of the high level of agricultural protection, stressing in particular that the agricultural as well as the industrial producer will suffer eventually from excessive agrarian protection.

The facts of the case are clearly presented by Sir Frederick Leith Ross, whose memorandum bristles with interesting tables showing the development of agrarian protectionism and its

results. The increase in protectionist measures since 1925, and the disparity which has developed between the prices of agricultural products in different countries are clearly demonstrated. The evidence is less definite in indicating any increase in agricultural production in Europe, with the notable exceptions of wheat in most countries, and most products in Germany. The memorandum—a model of compression—cannot be summarised briefly, but should be read by all who are concerned with the reasons for the agricultural depression and the development of economic nationalism.

M. Chautemps has attempted to summarise and evaluate for the French reader the new British agricultural policy. His account, consisting mainly of a synthesis of English publications on the subject, is marred by a number of inaccuracies (such as the figures of milk production on p. 22). He also neglects, in his eloquent denunciation of the protectionist side of the policy, and of the exploitation of the consumer, that the policy has other aspects, such as the attempts to improve marketing methods.

Mr. Cotta's well-documented account of the recent development of agricultural co-operation in Italy, and its relationship to the Fascist regime, will be mainly of interest to students of co-operation. He assembles a mass of statistics relating to the different types of association and describes in detail the forms of organisation. His account of the relationship of the co-operatives to the Fascist organisations is less easy to follow.

RUTH COHEN

Economics of the Farm Business. By THEODOR BRINKMANN. English Edition, with introduction and notes by ELIZABETH TUCKER BENEDICT, HEINRICH HERMANN STIPPLER and MURRAY REED BENEDICT.

TREATISES on Agricultural Economics in the English language, with certain exceptions, have been mainly concerned either with the historical approach or with the statistical and descriptive account of existing conditions. At the same time research in this field has concentrated primarily on problems of the internal management of farms, and the costs incurred, and, more recently, on studies of marketing and prices. Such a development is perhaps inevitable when the more theoretical aspects of the subject are left to the pure economist. It is, however, unfortunate from the point of view of the student who has perhaps not studied economics, but is much in need of some guide to fundamental economic principles as they affect agriculture.

Mr. and Mrs. Benedict and Herr Stippler have thus performed a useful function in translating Theodor Brinkmann's *Economics of the Farm Business*. This is not, as its title might imply, an account of farm management problems, but a careful analysis of the effect of the marginal principle on the structure of agriculture, assuming perfect competition. (The original script of the book was completed in 1912.) "As the farmer must seek in determining the intensity of his farming the final input which is still paid for, as he must seek, in organising the utilisation of the land, the last acre which can profitably be given to a particular crop, so he must now seek an answer to the same question for each individual product. Where is the last unit of product which can still be used in one specific type of conversion with greater profit than in any other?"

His analysis of the factors which determine the use to which any piece of land shall be put brings out clearly the sense in which it is true to say that rent enters into price, and clarifies the arrangement of Von Thünen's zones.

The approach throughout is theoretical, but is based upon the practical conditions which are important to the farmer. Thus the costs of production and of marketing, the fertility of the soil, the interrelationships of the various products on any farm, and the personal qualities of the farmer are all taken into account.

The analysis is almost wholly concerned with the conditions of supply, and does not attempt to indicate the effect of changes in these conditions on demand. None the less it provides an economic framework for the agricultural problem which every agricultural economist should read.

RUTH COHEN

The Agricultural Register, 1934–35. (Oxford: The Agricultural Economics Research Institute. 1935. Pp. viii + 391. 5*s*.)

WHEN the Register first appeared a year ago, we were promised that, if it proved that it supplied a want, it should become in future an annual. Its reception justified the hopes of the Institute, and they have not only produced a second volume, but also, at a slight increase in price, have substantially enlarged it. Material relating to Scotland and Northern Ireland has been added, but the great bulk of the additional material arises from the increase in the administrative action undertaken under the Agricultural Marketing Acts. In the last Register some thirty pages sufficed to describe the machinery set up under those Acts

to deal with the marketing of various commodities. In the present Register, though this machinery is taken for granted, almost five times the space is occupied with accounts of its operation and the effects upon the various commodities concerned.

As before, the Register, after a brief introductory review, contains sections on Legislation, Trade Regulation, Administrative Action, Supplies and Prices, Statistics, Labour, and Miscellanea. The standard of objectivity of the treatment of these highly controversial forms of governmental activity is admirably maintained. The reader is given the facts dispassionately, and left to draw what conclusions he may. But an hour or two spent in turning over the pages of this volume can hardly fail to leave two impressions on the mind; the first, of the infinite series of complementary and countervailing committees, organising exploitation, guarding against exploitation, judging exploitation; the second, of the steadily mounting demands upon the exchequer and the consumer for assistance which one feels by no means confident will always reach the persons really requiring it.

Housing England. By the Industries Group of "Political and Economic Planning." (London: P. E. P., 16 Queen Anne's Gate, S.W.1. 1934. Pp. 158. *5s.*)

THIS report is an interesting addition to the various studies of problems connected with housing which have appeared in the last year or two, and it is largely concerned with a side of the question which has not so far had its full share of attention, namely, the possibilities of increasing the efficiency of the building industry.

The authors quote the various estimates of housing requirements which have been made recently, and suggest that a new organisation should be formed especially for the production of low-rented houses in large numbers. This organisation would consist of a company which would own and manage, linked to which would be a subordinate company to do the actual work of building. Its activities would be carried out in conjunction with the local authorities and according to local needs, and it is claimed that the scale of its operations would make possible considerable reductions in cost without a lowering of standards.

The two main openings for cost reduction, in the opinion of the authors, are improved building technique and organised purchase of materials. Perhaps the best part of the report is that dealing with building technique. Its argument can be summarised in the statement that "the building industry has only

recently showed any signs of changing from a basis of tradition to one of applied science." The change is a desirable one, and there are two principal ways in which it can be encouraged. One is through greater uniformity and less rigidity in building regulations, which would facilitate standardisation and the introduction of new materials. The other is through more research. Government action in various directions is suggested to further both these lines of improvement.

The report contains a useful section on the materials industries. Bulk purchase would enable production in these industries to be better adjusted to demand and would thus tend to lower their costs. There is also a good deal of interesting information regarding the labour side of the building industry, and various other subjects are touched upon, of which management and the possibilities of derating working-class houses may be especially mentioned.

The general impression given by the report is that the building industry is at present suffering from an excess of tradition, too many separate units, insufficient research, and a general lack of co-ordination. The authors appear to have made out a strong case for the advantages of the large-scale production of working-class houses, but it is rather unfortunate that they have wedded their various suggestions for reform in the building industry so closely to their proposals for a particular form of private organisation for owning and building, since it seems probable that this will, in fact, be undertaken almost entirely by the local authorities; however, this is no reason why steps should not be taken, as indicated in this report, to increase the efficiency with which building is carried out and so to bring down its cost.

J. INMAN

Marketing of Manufactured Goods. By NEWEL HOWLAND COMISH, Ph.D., Professor of Business Administration in the University of Oregon. (Boston: The Stratford Co. 1935. Pp. 282. $3.00.)

THE high reputation which American Universities and Schools of Business Administration have achieved in the field of Applied Economics, and not least in the scientific study of Marketing, makes it difficult to excuse the appearance of the present volume. A few samples, culled almost at random from its pages, will serve to illustrate the poverty of the author's thought and his inadequate grasp of the English language. Take this, for instance, as a comment on the introduction of the N.R.A. Codes:—
"Experimentation is undoubtedly better than theorising in the

fertile fields of our prejudices, for if we are stripped of our economic prejudices and come out into the open field of objectiveness with an attitude of disinterestedness, we may be forced to the conclusion that nobody knows how far the Government should go in for this partnership of business." Or this, to wind up the chapter on Mail-Order Houses :—"Manufacturers of standard articles demanded by rural folk and some city people might, nevertheless, find, when other factors are equally favourable, the mail-order channel desirable." Out of consideration for the more sensitive of our readers, we refrain from setting down some even more remarkable linguistic specimens, though the book is full of them.

Dr. Comish's matter is as deplorable as his manner. From cover to cover there is nothing in the book which has not been more adequately and more interestingly treated by a score of writers on both sides of the Atlantic. Two-thirds of it is devoted to a dreary, exhaustive, but amazingly uninstructive catalogue of the various types of wholesale and retail outlet open to the American manufacturer. The remainder contains a jejune discussion of problems of special interest to the producer of branded goods and ends with a chapter on Market Research, in the course of which we find the following sentences :—"Some research work in marketing is so poorly presented that use is rarely made of it. Libraries are full of unused research studies. . . . Research experts should remember these facts and spend more, not less, time in presenting materials in an attractive and intelligent manner. A knowledge of good English . . . will go a long way in removing these difficulties." *Quis custodiet ipsos custodes?*

S. P. DOBBS

Advertising Reconsidered. By A. S. J. BASTER. (London: P. S. King & Son. Pp. 128. 5*s*.)

THIS book is a most effective counterblast to the numerous advertisers' advertisements of themselves that have recently appeared in books of somewhat similar form. It beats them in wit and argument and illustrates the economic, ethical and æsthetic case for the prosecution by damning, and indeed often blasphemous, quotation out of the very mouth of the defence.

There are chapters descriptive, critical and constructive; but to an economist the most interesting chapter is that entitled "Analytical." Here Mr. Baster discusses how far advertising deflects the distribution of resources from satisfying real wants to satisfying the artificial wants it has itself created. Commodities

easily advertised are likely to obtain a new preference from consumers over commodities less easily advertised. Unfortunately Mr. Baster seems to identify his real wants with real needs, and (*e.g.* pp. 89 and 90) uses the words interchangeably. This obscures the fact that a consumer's real, pre-advertisement, wants may not really be needed by him any more than his post-advertisement wants. Advertisements of soaps, tooth-brushes, cereals, might actually deflect a man's wants from the less easily advertised but real enough want to gamble or to go on the razzle; but such deflection would not necessarily be away from real *need.* Once an economist embarks upon the slippery slope of "reality" and ethical consequences, he must surely end in questioning whether man's spontaneous or customary wants, arising without the help of advertisement, are really so excellent or rational and so much a matter of "real need" that all deflections therefrom are to be condemned out of hand. Somewhat too late—within four pages of the end of his book—Mr. Baster does, in fact, question "the peculiar sanctity which surrounds consumer's choice in most discussions," and agrees that State advertising might be used to persuade the consumer to want what he ought to want.

A further consideration in favour of advertising, and one that is purely economic, seems to have escaped Mr. Baster. Since advertisement, apart from prestige publicity, usually recommends one particular branded commodity, advertisement is likely to advance large-scale operation as against large-scale organisation, or, in other words, to help firms of given size to concentrate effectively upon the provision of one or a few articles each on a large scale, rather than to scatter their energies upon a multitude of products.

Mr. Baster, as his sub-title implies "confesses" to "misgivings" about advertising. His book is not quite a fair *pro* and *con* statement, but is a vigorous and well-documented exposure of the white lies, ballyhoo and exacerbation to sensitive nerves involved in advertising, no less than of the hypocrisy, rascality and insensitiveness of advertisers. Mr. Baster's remedy is probably the right one, namely, books such as his.

P. SARGANT FLORENCE

University of Birmingham.

The Budget in Governments of To-day. By A. E. BUCK. (Macmillan. 1934. Pp. vi + 349. 12*s.* 6*d.*)

To have written a book about budget-making that is both clear and readable is a notable achievement. Mr. Buck, bearing American budgetary practice—or perhaps malpractice—especially

in mind, examines the methods adopted by the leading governments of the world in formulating, authorising, executing and controlling their financial programmes. His book is planned with reference to these successive stages in the process of determining the related measures of public income and outlay. Fiscal procedure is shown to be intimately bound up with particular constitutional, and other less openly recognised, limitations of political organisation, with serious consequences for the substance as well as the technique of the economics of government.

Where does, or should, initiative and responsibility rest for preliminary estimates, for legal sanction, for final audit of the Budget? How are the duties of the many agencies that are inevitably concerned with the handling of public monies best distributed and co-ordinated? What is the most useful degree of elaboration of the Public Accounts? The answers to these large questions must always depend upon the character of established institutions in any given country. But in his brief historical outline, and in his widely-informed survey of actual present-day practice, Mr. Buck brings out certain general aims and conditions of sound budgeting which no government can afford to neglect. Economists may wish that the argument were closer on difficult problems such as the balancing of budgets over a period of years rather than annually, or the separation and appropriate composition of current and capital account, or the proper province and scope of continuing as against yearly sanction of revenue and expenditure. But on these controversial points, as indeed throughout his discussion, Mr. Buck sets out with judicious quotation the various views held by eminent authorities; and those who choose to follow up any special matter may readily do so with the aid of an admirably selected bibliography.

Every present and intending statesman and civil servant the world over, who commands simple English, will do well to read this comprehensive and scholarly introduction to the art of fiscal administration.

M. Tappan Hollond

Girton College,
Cambridge.

Canadian Anti-trust Legislation. By John A. Ball, Jr. (Baltimore: The Williams and Wilkins Company. 1934. Pp. vii + 105. 9*s*.)

In 1888 a Parliamentary Committee found evidences of combination in Canada. Nearly fifty years later another Parlia-

mentary Committee (now the Price Spreads Commission) has been investigating problems which still arise from lack of effective competition, and this despite a series of experiments in the control of combination in the interval.

The first Act (1889) "for the prevention and suppression of combinations formed in restraint of trade" by criminal prosecution proved ineffective. Supplementary provisions for tariff reduction and licence revocation were scarcely used. New legislation in 1910 introduced the principles of preliminary investigation and publicity. Legal penalties applied only if a combine persisted in offences condemned by the Board of Investigation. War-time price control preceded two Acts in 1919 which established a permanent Board of Commerce to administer the new Combines and Fair Prices Act. The Acts were declared unconstitutional. The present Combines Investigation Act (1923) provided for a permanent Registrar; for investigation by Commissioners though not for adequate publicity; and for judicial proceedings and penalties for past (not merely continued) detrimental combination. The Privy Council has upheld this Act.

Mr. Ball's account of these successive measures and the action taken under them provides a timely digest of material hitherto available only in scattered articles, judicial proceedings or blue books. He describes the many problems of procedure and alternative penalties; of legislation halting between the ineffective and the oppressive; of legal and constitutional uncertainty (such as that raised by the case now before the Privy Council).

He concludes with enthusiastic commendation of the Act of 1923. In his praise he neglects two fundamental difficulties of anti-trust legislation which Professor Pigou pointed out.[1] First, attempts to compel artificial competition provide no cure for "detrimental" combination. Secondly, what test should be applied to discover what types of combination are detrimental? That the dangers of modern monopoly cannot be met by anti-trust legislation such as the existing Act, Mr. Ball in effect admits: "Canada has not entirely (*sic*) escaped the movement towards elimination of competition under governmental supervision." The Report of the Price Spreads Commission drives home the point in recommending drastic changes and additions to the law.

I. M. Biss

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[1] *The Economics of Welfare*, Part II, Chap. xxi (third edition).

Ending the Unemployment and Trade Crisis by the introduction of Purchasing Certificates and the Establishment of an International Clearing System. Edited by EDGARD MILHAUD. (London: Williams and Norgate, Ltd. 1935. Pp. 354. 5*s*.)

THIS is a voluminous sequel to the two previous books, *A Gold Truce* and *Fresh Work, Fresh Markets*, in which Professor Milhaud outlined his proposals for curing the present depression. In support of these proposals, he has now collected together an international team, consisting of three Germans, one Rumanian, and one American, who contribute a number of essays on the domestic and international aspects of the Milhaud proposals. The book also contains a number of Appendices which deal with several economic experiments, including, in particular, an exposition of "Phipsonism" and the Homecroft scheme by Professor J. W. Scott and several articles on the "Woergl" experiment.

Professor Milhaud has the misfortune of being sufficiently orthodox to be regarded as a "theoriser" by his fellow monetary reformers, and he is sufficiently bold to be regarded as a dangerous reformer by his fellow economists. He believes in the Gold Standard, and he is opposed to autarky. He is also opposed to the flotation of large government loans for the financing of public works, and he does not claim that monetary devices can solve all economic and social problems.

On the positive side, however, his proposals are less simple. Their essence appears to be the creation of purchasing certificates, or "goods warrants," both for domestic and for international purposes, with, for the latter, the establishment of an international clearing system. On the domestic side, the plan is very much akin both to many "self-sufficiency" schemes and to the "free money" proposals of Silvio Gesell. One gathers that these "goods warrants" would, in practice, be issued by certain large groups—railways, house-owners' associations, etc.—in payment for the goods which they buy, and that they would then be accepted by them in payment for rents, freights, etc. Some of the authors also appear to be very much impressed with the schemes tried in Germany during the last few years for stimulating employment by the issue of tax-remission certificates, and for increasing consumption through purchasing certificates and credit notes issued to newly-married couples. But they fail to point out that little success, if any, has attended these schemes in Germany.

The glorified barter arrangements suggested for international transactions appear somewhat naïve in view of our experiences of the last few years with "regulated" trade. The workings of the different "compensation" and clearing arrangements now in force between so many countries do not increase one's confidence in this particular type of planning. It is a sad commentary on the present situation that able and well-intentioned people should have to ransack the lumber-rooms of mercantilism for "progressive" proposals.

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Wisdom and Waste in the Punjab Village. By M. L. DARLING. (Oxford University Press. 1934. Pp. xv + 368. 12*s.* 6*d.*)
Banking in India. By S. G. PANANDIKAR. (London: Longmans, Green. 1934. Pp. 334. 13*s.* 6*d.*)

MR. DARLING continues the method of "Rusticus loquitur," giving us in diary form the observations of a trained administrator on rural life in the Punjab. He has an eye for everything, but a special eye for co-operation, in which in India Mr. Calvert and he are leaders.

The book takes its name from a comment on p. 347: "In the Punjab the village is still a living organism, as full of wisdom as of waste and as much illuminated by the old light as any town is by the new." And he has already observed, "there is an underlying equity in unsophisticated village life which the modern individual town might envy." The book is divided into 260 pages of diary and some 90 pages of general summary, under such titles as: "The Village Servant," "The Village Woman—Custom and Change," "The Fall in Prices," "Education," "Reconstruction." The tone is one of sober hope, based on sympathy and knowledge. It is very fresh. The tours were made on horseback, and not by car, in the winter of 1930–31, and at relevant points, *e.g.* the scarcity of 1934, the account is brought up to date (p. 204). Our one reproach is that these fine servants of the Punjab write so much that is good, that we know as much of the Punjab as of the rest of India!

One can only hope to reproduce the quality of the book by giving a few of its *dicta:* "A less satisfactory effect of the canal is the lowering of the age of marriage." "Till the beginning of this century cash played the most limited part in village life." "The army is the salvation of the people, disciplining tempers,

widening minds, and raising standards all round." "The feeling for religion is the sacred thread that all India wears." All these and many others that might be quoted are apposite to the context, which provides some telling examples. We are accustomed to think of the peasant as miserably poor, but till recently he was able to afford £75 for a circumcision (borrowed, no doubt): to imagine him under the heel of the money-lenders, but in 1930 in the Punjab alone 34 were made away with. There are some important examples of co-operation applied to sale, *e.g.* cotton; and we are brought back to Mr. Darling's original work, *The Punjab Peasant in Prosperity and Debt*, when he reminds us once again that saving, instead of borrowing, to spend would soon change the face of rural India. This perhaps explains the determination of the central government of India to balance its budget at all cost.

Dr. Panandikar sets himself a very different task. His book is based on what he rightly calls "the authoritative and exhaustive banking inquiry of 1929–31," the central as well as the provincial Reports and Evidence, 20,000 pages of print. His arrangement is good: rural finance, industrial finance, and finally the Imperial Bank of India and the new Reserve Bank. The historical introduction is colourless, and it is a pity that he does not expand on p. 332 his reference to the "fallacies about the extent of hoarding." The book is not analytical, but it is exhaustive. An apparent objectivity of treatment is somewhat marred by an obvious leaning to Indian grievances. The case against the Exchange Banks seems to be that they succeed not only on their merits, but because they favour their friends. But is it not simply that they do business where business is safest? An English reader would like a fuller reference to the "Swadeshi movement" (p. 11). However, the author has fully mastered his material, and it was his duty, perhaps, to emphasise the Indian case.

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NOTES AND MEMORANDA

NATIONAL INCOME AND EXPENDITURE AND THE MEASUREMENT OF SAVINGS

THE measurement in terms of money of the national income received in a calendar year, and the measurement of the national outlay for the same period, have both been the subject of close statistical study, and in the ECONOMIC JOURNAL for March and September 1934 Mr. Colin Clark and Mr. Feavearyear, who have worked on income and expenditure respectively, attempted a reconciliation between their totals for the year 1932. The comparison raised some puzzling questions, which have since, with the help of Mr. Clark and Mr. Feavearyear, been further probed in the light of later information.

At first sight the theory suggests itself that any amount by which the income of a period exceeds the outlay for the period must represent the amount saved in that period, and both Mr. Clark and Mr. Feavearyear accepted, at the time of their previous examination of the subject, the view that saving might be a balancing item in the calculation. On further consideration, however, it is clear, and they agree, that on Mr. Clark's definition of income it is not possible that the total income of any period should *exceed* the total expenditure of the period, or include any sum representing saving in the sense of purchasing power withheld from use, though it may include saving in the sense of money devoted to the purchase of " capital " as distinct from " consumption " goods. Any apparent discrepancy, therefore, between the totals of income and expenditure on the side of an excess of income over expenditure can only be explained by an underestimate of expenditure (apart from the effects of any time-lag in the process of expenditure becoming income).

The definition, slightly abbreviated, runs as follows :—" The national income for any period consists of the money value of the goods and services becoming available for consumption during that period, reckoned at their current selling value, plus additions to capital . . . minus depreciation and obsolescence . . . and adding the net accretion of . . . stocks." In other words, it represents the market value of new goods and services as they reach the final consumer, the whole of such market value be-

coming income in the hands of somebody, as wages, salaries, rent, interest, or the net profit remaining after these charges are paid. The income must therefore be equal to the total expenditure on such goods and services during the period in question because it is that expenditure which brings it into existence. In so far as the expenditure is in kind (*e.g.* some of the outlay on domestic service), an estimated item has to be added, but this does not affect the balance, since it must appear on both sides of the calculation.

On the other hand, though national income cannot be greater, it may very well be less, than the total outlay during the given period. Such outlay includes payments to the Government (in the form of direct or indirect taxation or insurance contributions) which are not entirely payments for services, but may effect the extinction of debt, in which case they do not become income at all, or may represent the mere transfer of income from one set of persons to another—*i.e.* from the taxpayer to the pensioner, the recipient of national debt interest, or the recipient of insurance benefit. Receipts of this kind are excluded from the national income as above defined, and a deduction in respect of them must be made from the outlay side of the calculation if a balance is to be effected.

On one side of the calculation, then, will be the various items of expenditure enumerated by Mr. Feavearyear on p. 45 of the ECONOMIC JOURNAL for March 1934, but excluding (1) his figure for "saving," except in so far as it represents expenditure on new values, and (2) taxation, direct and indirect, and rates, except in so far as these represent payments for services rendered by the Government or Local Authorities, or their agents, and so generate income. On the other side will be wages, salaries, profits, rent and interest, as compiled from the income tax and wage statistics. If the various estimates are sound (the margin of error must, of course, be considerable) the figures should be in approximate agreement. A considerable discrepancy means, not that some of the income is "saved," or that some of the expenditure has been made out of previous savings, but that some item is missing, or has been wrongly estimated, on one side or the other.

We can now look again at the figures which were discussed in 1934. Mr. Feavearyear's total for outlay, including "saving," direct and indirect taxation and employees' insurance contributions, was £3,662 m. Mr. Clark's total national income was £3,620 m., but this included an addition in respect of employers'

rates and social insurance charges to the amount actually assessed as income.

It was clear that we must deduct from Mr. Feavearyear's figure (*a*) that part of his "saving" which does not represent expenditure (£82 m.) and (*b*) that part of taxation which represents the transfer of income rather than payment for new values (Mr. Feavearyear himself proposed to deduct this amount, which he put at £567 m.). On the other hand, it appeared that we had to add the estimated expenditure in cash or kind on domestic service, which is excluded from his calculations but included in Mr. Clark's. This was put by Mr. Clark at £120 m. Even assuming, as Mr. Clark did, that Mr. Feavearyear's total was £160 m. too low in respect of retail transactions, and reducing Mr. Clark's total by the "rates and social insurance" item, there still remained a discrepancy of over £100 m. between the two results.

Certain figures have now become available which are accepted by Mr. Feavearyear and bring reconciliation much nearer. It appears that the addition in respect of under-estimate of retail transactions should have been not £160 m. but £200 m., while the expenditure on domestic service is now put at £150 m. In addition, certain items omitted on the expenditure side have to be added: £20 m. fees to Local Authorities for parks, street works, educational facilities, etc.; £25 m. for private education; £25 m. for the services of hotels and restaurants other than cooking and serving food. With these additions and some other slight modifications which Mr. Clark has suggested after an examination of the new data, we reach the following figures for expenditure by final consumers:

Consumption expenditure including indirect taxation and rates	£3,477 m.[1]
Direct taxation	£405 m.
Capital or investment expenditure	£109 m.
Insurance payments by employees	£42 m.
	£4,033 m.

Mr. Clark now estimates the national income for 1932 (excluding employers' rates and social insurance) at £3,420 m. The difference, if the above arguments are sound, must represent that part of the national expenditure which does not generate income—*i.e.* taxation, rates and insurance contributions which become "transfer" incomes or are used to extinguish debt.

[1] About £270 m. more than Mr. Feavearyear's corresponding figure after domestic service was allowed for.

Mr. Clark has calculated that of the £1,020 m. which constituted the revenue of the State and Local Authorities for the year in question, £74 m. were added to sinking funds, £545 m. (as against Mr. Feaveryear's previous estimate of £567 m.) became "transfer" incomes, and the remaining £401 m. represented the value of services performed. £40 m. of this was, however, covered by Government revenue other than the current compulsory expenditure, so the amount of such expenditure which became income through payment for public services is £361 m. The amount to be deducted from the expenditure of the year in order to arrive at the income of the year is thus £980 — £361 m. or £619 m. Taking this from our total of £4,033 m. we arrive at a final relevant expenditure total of £3,414 m., a result so near to the estimated income total of £3,420 m. as to constitute a very useful confirmation of the calculations by which Mr. Clark has arrived at it.

The figures can conveniently be set out as follows for comparative purposes:

National Outlay by Final Consumers, 1932.	£	Disposal of Outlay.	£
Consumption expenditure (including indirect taxation included in the price of commodities, and rates)	3,477 m.	Salaries, wages, interest and profits	3,380 m.
Capital or investment expenditure . . .	109 m.	Government income . .	40 m.
Direct taxation . .	405 m.	Transfer incomes (pensions, insurance benefits, national debt interest) .	545 m.
Insurance payments . .	42 m.	Payments to sinking funds from Government and Local Authorities' revenue	74 m.
	4,033 m.		4,039 m.

Part of above outlay which became income.	£	Income (in Mr. Clark's sense).	£
Consumption expenditure less indirect taxation and rates (£533 m.) . .	2,944 m.	Salaries, etc.	3,380 m.
Capital expenditure . .	109 m.	Government income . .	40 m.
Money value of services rendered by public authorities in return for compulsory payments . . .	361 m.		
	3,414 m.		3,420 m.

It is apparent from this presentation of the matter that the savings of the period, in the sense of money not spent on anything, have no place in the calculation. It is spending, and spending only, which creates the national income; saving is only an unrealised potentiality of spending. Deliberate abstention from spending by some people results in others not having the means to spend,

and there is no way of measuring the amount by which the national income has been reduced by such involuntary abstention.

MYRA CURTIS

OUTPUT PER HEAD IN GREAT BRITAIN, 1924–33

THE publication of the Final Report of the Census of Production enables us to make a statistical study of changes in output per head between 1924 and 1933. The study is divided into two sections; the first a compilation of an index of output per head on the basis of the Census for the years 1924 and 1930, and then an attempt to compile an annual index of output per head for the years between 1924 and 1930, and 1930 to 1933.

In the calculation of the 1924–30 Index of Production, the physical quantity method of production as contained in the formula [1]

$$\sqrt{\frac{\Sigma\left(\frac{Q_1}{Q_0}\right)V_0 \, . \, \Sigma V_1}{\Sigma V_0 \, . \, \Sigma\left(\frac{Q_0}{Q_1}\right)V_1}}$$

has been used. On this basis a final [2] index of production for all industry of 109·8 and for manufacturing industry alone of 112·3 for 1930 (1924 = 100) is arrived at. To obtain an index of output per head this index of production is related to an index of employment. The following table gives the result of such a calculation.

TABLE I

Output per Head in British Industry, 1930. 1924 = 100.

(*a*) = All Industry (Manufacturing and Mining).
(*b*) = Manufacturing only.

Production (Census).		Employment [1] Operatives (Census).		Output per Head per Operative.		All Employed [1] (Census).		Output per Employee (Census).		Employed [1] (Ins. figs.).[2]		Output per Employee (Ins. figs.).	
(*a*)	(*b*)	(*a*)	(*b*)	(*a*)	(*b*)	(*a*)	(*b*)	(*a*)	(*b*)	(*a*)	(*b*)	(*a*)	(*b*)
109·8	112·3	96·0	100·0	114·4	112·3	96·6	100·4	113·7	111·6	96·1	100·6	114·3	111·6

[1] Short time is to a certain extent taken into account in this figure, since the Census of Production returns are compiled as an average for a particular week, and the Ministry of Labour figures on a particular day in the month.

[2] This figure has been compiled from the number insured and unemployed for Great Britain only. The number insured for Great Britain appears every year not in the Ministry of Labour Gazette but in the Annual Report of the Ministry of Labour.

Since one may justifiably presume that working below capacity and short-time working had increased in 1930 relatively to 1924,

[1] Q_0 = quantity in 1924. V_0 = net output in 1924.
Q_1 = ,, in 1930. V_1 = ,, in 1930.

This formula is used not only in weighting the main industrial groups, but also for the different sections and commodities wherever quantity statistics are available.

[2] The indices for separate industries have been compiled and are available to anyone interested.

one can deduce from this table that the lower margin of an index of output per operative in all British Manufacturing and Mining Industry for the year 1930 was 114 (1924 = 100). This increase was to a small extent counterbalanced by an increase in the relative importance of the administrative and technical staff which was attached to industry, bringing down the output per wage-earner to about 113·5.

How does this compare with results we would expect from the Board of Trade index of Production and the Ministry of Labour figures of Employment? As we can see from the table given above, the Employment figures are almost the same according to the Insurance Statistics and the Census, so that any difference will be in the Production index. The Board of Trade index for 1930 (1924 = 100) is 106·3 and 103·3 for manufacturing and all industry respectively as compared with our index of 112·3 and 109·8. This difference is partly due to the fact that not all industries covered by the Census are covered by the Board of Trade index. Another index has therefore been compiled on the basis of the Census returns which includes only those industries covered by the Board of Trade index. This gives a figure of 104·6 [1] (All industries) and 107·0 [1] (Manufacturing). Relating this to an appropriate figure of employment we obtain an index of 115·7 and 112·6 of output per head for all industries and manufacturing industries respectively. For production not covered by the Board of Trade index the figures of production and output per head are 119·1 and 110·4 respectively. This shows that although production included under the Board of Trade index has been increasing less quickly than that not included, yet output per head has increased more in industries included than those not included.

With the knowledge that the Board of Trade index does not fully represent changes in production throughout the whole of industry we can now attempt to compile a yearly index of output per head. The employment figures used are those compiled from the Statistics of the Ministry of Labour. Since, however, these statistics cover the whole of industry,[2] they must be adjusted to cover only the sphere of industry covered by the Board of

[1] The disparity between these and the Board of Trade indices of 103·3 and 106·3 is obviously to a great extent due to differences in methods of weighting. The Board of Trade index is weighted according to 1924 net outputs. This method over-weights the industries which declined between 1924 and 1930 and under-weights those which expanded, giving a final figure which is too low. Our index, however, takes into account net output both in 1924 and 1930.

[2] With a few exceptions.

Trade index. Mr. Colin Clark in his estimate of yearly changes in output per head [1] excluded building, the distributive trades, banking, commerce and transport, and then used the resulting employment figure to compile an index of output per head. This method is unsatisfactory, for, as we have seen, the industries and sections of industries not covered by the Board of Trade index have increased their production more rapidly than those included. In our index, therefore, we have excluded all sections from the employment index which are not definitely covered by the Board of Trade index.[2] As a basis of comparison with this, Mr. Clark's estimate is given and also our estimate on Mr. Clark's basis of estimation.

TABLE II

Annual Index of Output per Head. 1924 = 100.

	I. Employment Index includes only those sections covered by Board of Trade Index.		II. Employment Index excludes Building, Banking and Commerce, Transport and Distribution.		III. Clark's Estimate.
	(*a*) Manufacturing and Mining.	(*b*) Manufacturing.	(*a*) Manufacturing and Mining.	(*b*) Manufacturing.	Manufacturing and Mining.
1924	100·0	100·0	100·0	100·0	100·0
1927	109·9	107·3	106·7	105·7	106·4
1928	110·1	106·4	106·2	104·7	106·4
1929	115·1	111·7	111·0	109·4	110·0
1930	116·7	113·4	110·5	108·8	
1931	117·1	113·5	108·7	106·5	
1932	117·5	112·6	109·1	106·5	
1933	120·2	115·4	111·3	109·1	

The difference between I and II confirms what we found earlier; that production outside the Board of Trade index has been increasing more than that included, so that any index of output per head which does not rigidly exclude from the Employment index all sections not covered by the Production index will give an index much too low. The error is one which increases yearly, because it is not just an accidental difference in one particular year, but an ever-widening difference.

[1] ECONOMIC JOURNAL, September 1931, p. 357.

[2] For example, in the case of the Iron and Steel industry the Production index covers only Pig Iron, Iron and Steel Smelting, Tin Plates and Wire, whereas the Ministry of Labour figures cover the further categories of Iron and Steel Tubes, Heating and Ventilating, Stove, Grate and Pipe; and General Iron-Founding. These are excluded in the Employment index of Table I.

Finally, to sum up our findings, we may conclude that output per head in all manufacturing industry increased by at least 14 per cent. between 1924 and 1930, that this estimate is likely to be too low, since there is likely to have been more working below capacity in 1930 than in 1924; that in the sphere of production covered by the Board of Trade index output per head increased between 1924 and 1930 by about 17 per cent., and between 1930 and 1933 by at least another 3 per cent. (of 1924).

It will be noticed that these estimates, even though they are likely to be too low, are considerably higher than the general figures which are usually given in connection with discussion of the relation between the height of wages and changes in labour costs, and the changes in the technical efficiency of British industry relatively to changes in other countries. In the light of these figures many statements on these two subjects would have to be revised.

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A FUNDAMENTAL OBJECTION TO *LAISSEZ-FAIRE*

THE presumption in favour of *laissez-faire* arises from the view that a given total of productive resources will yield under free conditions the maximum of social benefit, measured by the aggregated utilities to consumers of the commodities produced. There are serious objections to the notion of aggregating utilities and to the notion of utility itself, but a very serious, though very simple, objection to the presumption in favour of *laissez-faire* arises after the notion of utility has been accepted.

To rule out the well-known exceptions, let us consider an economic system in which each market is perfect, in which there is free mobility of resources, and no "external diseconomies" such as the smoke nuisance. In such a system, if price is everywhere equal to marginal cost, the optimum amount of each commodity is produced. Price is taken to measure marginal utility, and where marginal utility and marginal cost are equal, satisfaction is at a maximum. But the marginal principle only serves to show how much of each given commodity should be produced. It cannot throw light upon the question of what commodities should be produced. In order to decide whether a certain commodity ought to be produced at all it is necessary to know whether its total utility exceeds its total cost. This condition must be

satisfied by all those commodities which are in fact produced. Their average cost cannot be greater than their price, which measures their marginal utility, and *a fortiori* cannot be greater than their average utility. And the case in favour of *laissez-faire* rests upon the assumption that all commodities which it is profitable to produce will be produced. But this condition, though *necessary* for the maximisation of aggregate utility, is not *sufficient*. There are a large number of commodities which it is not in fact profitable to produce, of which the average utility would exceed the average cost.

The choice of what commodities to produce should be made, not by applying the criterion of marginal utility (price), which only serves to regulate the ideal amounts of output, but by applying the criterion of total utility. An all-wise dictator, to whom every utility function was known, could increase the social benefit derived from given resources by revising the constitution of the set of commodities produced under perfectly *laissez-faire* conditions.

The contention that *laissez-faire* fails to maximise total utility, by failing to provide the ideal selection of commodities, is by no means new. It is implicit in the admission of a well-known exception to the presumption in favour of *laissez-faire*. It has always been held that in certain conditions a commodity which could not be produced by a monopolist charging a single price, will be produced, to the social benefit, if a sufficient degree of discrimination happens to be possible. A doctor in a sparsely populated district could not practise unless he were able to charge high fees to his richer patients and low fees to his poorer patients. If he were compelled to work at a flat rate, and were therefore obliged to give up his practice, there would clearly be a social loss. The well-known argument runs thus: Even when discrimination obtains, the receipts of a monopolist cannot at greatest exceed the total of utility due to his product. If his total costs are not greater than his total receipts it is desirable that his commodity should be produced. For if he were to withdraw from business, the factors of production released from his product would be added at the margin to all other commodities, so that the total of additional utility from other commodities could not exceed the loss of utility from the commodity which had disappeared. This familiar case is an illustration of the presumption that (unless perfect discrimination is everywhere possible) *laissez-faire* will fail to provide the ideal selection of commodities.

The objection may be raised that this criticism upon a *laissez-faire* system is not after all of much importance, since it applies only to cases in which average costs are falling. A commodity which it is not profitable to sell at a single price, but which it is in the interests of society to produce, must be such that its average cost curve everywhere lies above its marginal utility curve, but somewhere lies below its average utility curve. On the assumption that the average utility of commodities always falls as the amount consumed increases, this condition can be fulfilled only if average costs are also falling. It follows that for no commodity of which average costs are constant or rising for all outputs will production fail to be profitable if it is socially desirable to produce it at all. But every commodity must have falling average costs for small outputs. There must therefore be a large number of non-existent commodities which would be introduced under an ideal distribution of social resources, and it does not follow, because the ideal output of each would be small, that in the aggregate they would be unimportant. The service of a doctor is only one example of innumerable commodities which, in an ideal economy, would be introduced, each to a small extent, wherever population is sparse, or incomes, tastes and habits are diversified. The fact that the new commodities must necessarily each be produced under conditions of monopoly would merely create fresh examples of an already well-known class of cases in which interference with *laissez-faire* is necessary to produce ideal conditions.

This discussion is conducted without prejudice to the question whether maximum social utility is a legitimate conception.

JOAN ROBINSON

OFFICIAL PAPERS

Report of the United Kingdom Sugar Inquiry Committee 1935. (H.M. Stationery Office. Pp. 123. 2*s*.)

British Sugar Beet—Ten Years' Progress under the Subsidy. By A. BRIDGES and R. N. DIXEY. (Oxford University Agricultural Economics Research Institute, 1934. Pp. 92. 2*s*. 6*d*.)

THESE two publications are complementary, and in no sense competitive, and together they provide a body of material concerning the British Sugar-beet Industry which is probably as complete as can at present be compiled. The latter was published towards the end of 1934, and was thus available to the Greene Committee towards the end of its labours, while both the authors presented memoranda to that Committee and were orally

examined. Nearly half the pages of their little book are occupied by a detailed compilation of the costs and returns of growing sugar beet from 1924 to 1932, and it is here especially that they supplement the Greene Committee's Report, which reproduces and accepts their final summary figures, but gives little or none of the detail—detail which must be invaluable for intelligent farmers and agricultural economists, but which is not directly relevant or necessary for the Greene Committee's main purposes, and is therefore legitimately omitted. Messrs. Bridges and Dixey, however, have a section on "The Effect of Sugar-beet on Farming" which is well worth the attention of the more numerous body who should read both the reports of the Greene Committee; for on this aspect of the whole problem there is some difference of opinion and emphasis between the majority and minority reports. In particular, in discussing the additional agricultural employment created by the sugar-beet industry, in neither report is the point sufficiently emphasised that such employment has only served to reduce the decline in agricultural employment, which would otherwise have been still greater than it has been, but has not created a positive increase in the numbers employed.

It is inevitable that the Greene Committee's Report should rather eclipse the earlier and more limited investigations of the Oxford Agricultural Economics Research Institute, but how thankful the Greene Committee must have been to be able to enter into the results of their labours, though the Committee rightly feel the need for a still greater knowledge about the supply curve of the crop. Turning now to the Greene Committee's Report, the reviewer is faced with no easy task. To summarise the findings as to facts is almost impossible, for the relevant facts range not only over the agricultural and the manufacturing sides of the English sugar-beet industry and the English refining industry, but inevitably also over the whole of English agriculture and the world sugar situation. To attempt to compare the arguments of the Majority Report with the counter-arguments of the Minority Report seems futile unless the reader is familiar with the mass of facts on which these arguments are based. The most useful service which a reviewer can do seems to me to be to offer certain general reflections on the reports and the situation created thereby.

In the first place, these Reports are undoubtedly genuine, in the sense that the authors clearly approached the subject with the least possible conscious bias: this inquiry has been no "put-up job" by a Government, or Government departments, already determined on a change of policy. There is a

real attempt to get at the facts and all the facts, and look them squarely in the face: the only criticism on this score is that the Committee might have paid more attention to the world sugar situation, and in particular to the costs and conditions of supply in the exporting countries. They probably felt that to attempt to secure such information was beyond their scope and powers, and that the results would inevitably be too indefinite to affect their main conclusions, but it is rather disturbing to find so little information as to the normal long-period costs of cane-sugar production in Java, Peru, San Domingo or Cuba, and what there is, so contradictory. Again, there is, especially in the Minority Report, more than a hint of failure to realise that the "grossly inferior labour conditions" in these countries are to a large extent the direct result of the policies of this and other consuming countries. But on the whole the report is a sincere and able attempt to grapple with a most difficult problem, and as such it is worth the close attention of every economist and every taxpayer.

Secondly, it is clear that though considerable technical progress has been achieved during the last ten years, the British industry cannot maintain its present position without a substantial long-period subsidy, and the fundamental justification for the continuance of the subsidy is as a measure of relief and support for British agriculture: other arguments are admitted by the Majority Report, and still others are pressed in the Minority Report, but all three members of the Committee would, I think, admit that this is the crux of the problem. The Majority Report takes its stand on the belief that the subsidy is "extravagant, haphazard and inequitable": extravagant because the farmer does not receive the whole of it; haphazard because it goes mainly to those farmers who happen to farm near the spot where a sugar factory happens to have been established; inequitable because it helps largely one kind of farming, arable, when other kinds are almost equally in need of help. But the Minority Report makes some shrewd observations in reply, and the unbiassed reader may well feel that the arraignment of the Majority Report is not as well founded as it might be, especially as it clearly envisages that some other very substantial measure of relief should be given, and therefore its criticism is not against subsidies to British agriculture in general, but against this particular subsidy. Thus the issue really has to be judged on less specific grounds, and consequently much depends on the general economic attitude of mind and economic outlook of the

judges. Arguments which seem conclusive to Mr. Lloyd leave his colleagues cold, and so it will be with the readers of their reports. Given knowledge of a man's general attitude towards our economic affairs at the present time, one might forecast fairly accurately whether he will, after reading, support the majority or the minority of the Greene Committee, even though he had no previous conclusions on the matter.

Thirdly, there is another aspect of the whole matter which receives but little consideration even in the Majority Report. The case against the subsidy ought not to be argued solely in terms of specific advantages or disadvantages to Great Britain: there is also the general world and international point of view. If the Committee had devoted more attention to the world situation, they would have brought into much clearer relief the insane character of the arrangements which the world as a whole has built up for its sugar supplies, how it has deliberately preferred "to grow grapes in Scotland," and how cruelly and effectively the countries of cheapest production have been ruined. The arguments that Great Britain is not more insane than other countries, or that whatever is done about the British sugar-beet industry will not make much difference to the world situation, are not really true, and are certainly most dangerous. In this matter of its sugar-beet industry, Great Britain has a chance to strike a real blow at the whole principle of economic nationalism, and in particular to give the world a lead in reorganising its sugar supplies on lines which are dictated not merely by the doctrinaire-economist, but by sheer every-day common-sense. The neglect of this aspect of the whole business is the greatest weakness in the Greene Committee's report: even they have largely failed to realise that they are the inmates of an asylum, and that their most pressing duty was to realise this, and to make the British Government and the British public realise it also.

There will, of course, be some hard fighting as the result of this Report. The position of the refining industry is discussed with studied care and fairness, but, even so, the reader will feel that action of some sort is urgently required. The Majority Report has obviously no tender feelings towards the factory companies, but if the Committee's scheme of amalgamation and public control is put into operation, the shareholders may still feel that, with a final real effort at bargaining, they may yet have made a satisfactory investment. The case which the Committee make out for the necessity of a very complex scheme

of control, in the event of a decision to maintain the industry, is fairly convincing, but they themselves use as an argument against such a decision the very great difficulties of working their scheme. For the Government two things seem certain: to carry on the subsidy will be to encounter new and more formidable difficulties of administration at every turn; to turn back will be nearly, if not quite, as difficult. Meantime the Chadbourne restriction scheme awaits renewal this year. If it is not renewed, the situation may well undergo yet another transformation; while if Great Britain abandoned the beet industry, the new Chadbourne agreement might be very different. And we thus return to the old moral, that what the world does matters vitally to us in Great Britain, and what we do, matters vitally to the world.

J. W. F. ROWE

A Scheme for an Economic Census of India, with special reference to a Census of Production and Re-organisation of Statistics. Report by Dr. A. L. BOWLEY, Sc.D., Professor of Statistics, University of London, and Mr. D. H. ROBERTSON, Lecturer in Economics, University of Cambridge, to the Government of India. New Delhi: Printed by the Manager, Government of India Press: 1934.

PROFESSOR BOWLEY and Mr. Robertson were invited in the autumn of 1933 to report to the Government of India regarding the institution of a Census of Production, the improvement of statistics generally, and the organisation of a statistical department. Professor Thomas of Madras, Mr. Ghosh of Bombay, and Mr. Fazal of the Punjab Board of Economic Inquiry were at the same time asked to co-operate with them. Their Report recommends a thorough overhaul of the whole system of statistics in India. "Though in some branches careful work is being done, and determined efforts made to improve the accuracy and scope of information, in others they are unnecessarily diffuse, gravely inexact, incomplete or misleading; while in many important fields general information is almost completely absent." Apart from the familiar deficiencies of the vital statistics, they draw attention, to quote but one instance, to the more easily remediable inaccuracies of the agricultural figures. While the area sown is in most areas fairly closely known, the actual crop is estimated by guessing the percentage (in annas) that a given crop represents of a hypothetical standard crop. There are large errors possible

(and probably in some degree unavoidable) in making the estimates. But they are unnecessarily enhanced by further uncertainties with regard to the standard crop. When new seeds are employed the standard itself is, consciously or unconsciously, raised, and the increased yield often does not find its way into the statistics. No systematic method of averaging the individual estimates is employed when combining those for smaller areas to form the estimate for a district.

There are other surprising omissions. The census of population has not hitherto distinguished between those following a given occupation in rural and in urban areas, so that "we cannot tell, for example, how many of the 3,174,000 persons occupied in 'cotton spinning, sizing, and weaving' are in the towns and country separately." Employers, moreover, are included with employed. Thus it becomes impossible to discover the first thing that one wishes to know regarding the Indian economic system: the amount of work of a non-agricultural kind carried on in the villages, and its growth or decline from decade to decade.

The Committee make various suggestions also for the improvement or the creation of index numbers of wholesale and retail prices, of wages and profits, and for the reorganisation of trade and banking statistics. Their main task, however, was to report regarding the possibilities of instituting a census of production. They have suggested a scheme which would make it possible to estimate the national income with sufficient accuracy for the purposes for which the knowledge might be required. In brief, their scheme consists of a rural survey conducted by the method of sampling, taking some two or three hundred villages (according to its size) in each province, and making intensive local surveys of each of these villages. It is assumed that an investigator will be resident in each sample village for a period of twelve months, and will record, *inter alia*, the whole of the products of his village in kind, and then attempt to value the kind at village prices, or, if sold outside, at market prices less transport cost. The rural survey would be supplemented by urban surveys. It is suggested that thirty or forty of the larger towns (there are only 280 with over 20,000 inhabitants) should be surveyed; that a start be made with surveys of university cities where the staff of an economics department can assist, and that a sample of further towns of different sizes be added at a later stage. By such means it is hoped that reasonably accurate information can be secured without prohibitive cost. The goodness of the sample can, of course, be tested to some extent by a comparison

of inferences from the sample with already existing statistical data, as has been done for illustrative purposes in the Report.

To organise this, and other statistical work, and to interpret the results, some sort of staff would be necessary. The Report recommends the abolition of the title of Director-General of Commercial Intelligence and Statistics, and the establishment of a permanent Economic Staff, attached to the Economic Committee of the Governor-General's Executive Council. The staff would consist of four members. The senior would act as secretary of the Committee. He would be assisted by two Economic Intelligence Officers and a Director of Statistics. It is suggested that the last-mentioned should be responsible not only for the co-ordination of all statistics and the conduct of the census of production, but also for that of population, and that the Census Staff in future be kept intact instead of being improvised at comparatively short notice for each occasion. By this means it is suggested that experience may be better utilised, and thought given in the light of one census to the improvement of the next. But it would be regrettable if this should mean that the brilliant and intimate interpretation of official statistics, which has been such a feature of past censuses where the officials have been men who knew the India of the plains, would be lost in the achievement of perfection of tabulation by another permanent resident in Simla and Delhi.

It is perhaps a pity that the authors of the Report have allowed the fundamentals of the problem, the urgency of knowledge, the extent of present ignorance, and the broad lines on which it could be remedied, to be overlaid by the minutiæ of technical details of advice regarding the compilation of hypothetical data by hypothetical statisticians. Nor is the obscurity diminished by a curious inversion of the logical sequence of ideas whereby one is invited, following the order of the terms of reference, to start by discussing the staff required to organise statistics, which one next proceeds to consider, but which are required in their turn for purposes which only emerge in the last chapter. The inevitable result is that any except a most determined reader will have begun to skip long before he reaches the essentials, and may easily pass them by. The Committee have surely scaled the highest pinnacle of academic pedantry by appending a wholly irrelevant footnote to the last word of their peroration.

But these unimportant blemishes afford a hardly sufficient explanation of the treatment that the Report has in fact received.

During the period of its preparation a Finance Member "whose precise economic view" (to quote Mr. James, one of the representatives of Europeans in Madras) "always remained, after some of his most mellifluous speeches, in doubt," was succeeded by a Finance Member concerning whose opinions there has never been the faintest ambiguity. "He is an unrepentant free-trader, and it is crystal clear that he is a disciple of Lord Snowden." In a debate on the Report, after Mr. James and others had urged the acceptance of some change in the organisation of Government to meet modern economic needs, the present Finance Member described the suggested additions to the secretariat as a "brain trust on a small scale," and quoting the now somewhat threadbare gibe regarding economists and opinions, laughed the proposals out of serious politics. He did, nevertheless, suggest for consideration the creation of a post of Economic Adviser to the Government of India, analogous to that held by Sir Frederick Leith-Ross in this country.

But even the extremest advocates of *laissez-faire* have never believed in ignorance as a necessary condition of wisdom. Indeed, to no class is this country so deeply indebted for its system of public statistics as to the academic liberals of a generation ago. Whatever may be the attitude of the Government of India to the question of the desirability of a digestive or advisory staff to facilitate the work of its already existing Economic Committee, it is much to be hoped that the Government will bend its attention to the more urgent problem of securing that information exists whereby the moral and material progress of India may be effectively measured, and policy, whether it be public or private, determined.

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Report of the Royal Commission on Price Spreads. (Ottawa: King's Printer. 1935. Pp. 506. $1.00.)

MR. H. H. STEVENS, then Minister of Trade and Commerce, speaking on January 15, 1934,[1] denounced certain unethical business practices and abuses of economic power which he alleged to be developing to a degree which called for government intervention. Huge department stores and chain store organisations, mass buyers, were destroying the small independent retailers and exploiting the small manufacturers. Huge meat-packing establishments, mass buyers of beef, were unnecessarily depressing the price of beef. Great milling companies were establishing chains of bakeries and crushing their independent competitors. Sweat shops in the clothing industry were demoralising legitimate business which attempted to maintain decent labour standards. This speech raised cries of protest from the department stores, meat-packers and others, but it also let loose a flood of complaints from those injured in the competitive struggle. So great was the interest aroused that on February 2 the House of Commons passed a resolution calling for the appointment of a Select Special Committee "to investigate the causes of the large spread between the prices received for commodities by the producer thereof, and the price paid by the consumers therefor; and the system of distribution in Canada of farm and other natural products, as well as manufactured products."

The Select Committee on Price Spreads and Mass Buying, with Mr. Stevens as chairman, held sixty sessions between February 22 and June 22, 1934. The members reassembled as a Royal Commission on October 30; but in the meantime Mr. Stevens had resigned from the Cabinet and from the chairmanship of the Commission as a result of an unfortunate quarrel with the Prime Minister over the publication of a pamphlet by Mr. Stevens (intended for private circulation only, but owing to an error widely distributed) dealing with the abuses of modern business laid bare by the investigation. The Royal Commission held sixty-five sessions, the last on February 1, 1935. During the sessions of the Committee and the Commission 270 witnesses were heard; the verbatim evidence, amounting to 8277 pages,

[1] Speech reported in Toronto *Mail and Empire*, February 16, 1934.

is published together with an index; there were also filed 440 exhibits, a list of which is printed as an annex to the Report. The Commission retained the services of two counsel, and employed accountants to make elaborate examinations of the books of the department and chain stores. A word about the political situation must be added to this short description of the course of the inquiry; it was conducted by eleven members of the House of Commons, conservative and liberal, each of whom must have had constantly in mind the effect of the inquiry on the fortunes of his party in the impending general election; further, the inquiry was initiated and directed by an enthusiastic crusader, Mr. Stevens, who was a possible candidate for the leadership of the conservative party in succession to Mr. Bennett. The auspices were not favourable for intelligent economic inquiry.

The minutes of evidence contain a great quantity of material on many phases of Canadian economic life; but just how valuable the material will prove can scarcely be determined until one comes to use it. It will require great patience, for there is much that is useless, and much that is inconclusive and incomplete. There is too much opinion, and the facts were obtained by questioning on the part of examiners who were anxious to substantiate opinions. What these opinions were can be judged from Mr. Stevens' speech in Toronto, and from the terms of reference of the Committee, but one may note: (*a*) that the fall in prices in the home market is treated as the result of unfair competition (one can read the whole of the evidence of the Select Committee without finding any reference, except in a few questions by Mr. Young which obviously annoyed the rest of the Commission, to the existence of a depression or to the reduction of Canadian incomes consequent on the fall of the world prices of her exports); (*b*) that any competition is treated as unfair which leads to the destruction of small firms. It is hardly too much to say that the inquiry had all the characteristics of a "witch hunt," and that the proceedings are most valuable as evidence of the attitude of the public towards economic affairs. But in spite of these reservations it is certain that Canadian economists cannot ignore this source of material and will probably find much of it valuable. They will be grateful to the compiler of the index.

In spite of the unfavourable auspices, the Report of the Royal Commission on Price Spreads is a valuable document containing much sound economic analysis. It is not, however, quite consistent; sound economics jostle with the prejudices with which the Commissioners started. The general economic principles

involved in the inquiry are stated in chapter two, but the three liberal Commissioners who signed a memorandum of reservations recognised that the report failed "to follow logically the statements and implications contained" in that chapter. The chapter in question first discusses the economics of monopolistic competition and the possible development under such conditions of unfair competition, discrimination and exploitation. The second part of the chapter deals with the dependence of the Canadian domestic price level on the incomes of the export groups, and stresses the need for flexibility in view of the high variability of these incomes. The development of monopolistic competition has made for rigidity; it is hard to believe, as the Commissioners seem to, that nearly perfect competition can be restored by strict enforcement of the Combines Investigation Act, but it is also hard to believe that the regulation of business contemplated by the Commissioners can do anything but increase this rigidity. Social control to promote flexibility is theoretically possible,[1] but it is highly improbable in the present state of public opinion. Chapter three is an admirable study on "concentration and the corporate system of business," an important part of which is unfortunately relegated to Annex III. The influence of Messrs. Berle and Means [2] can be detected. Chapter four deals in turn with each of the industries which were investigated; chapter five discusses the problems of "labour and wages," in general and with particular reference to each of the industries; chapter six is concerned with the primary producers in relation to these industries, the live-stock producer, the tobacco-grower, the fisherman, etc. Chapter seven contains a detailed study of the retail trade in Canada during the painful process of concentration. Chapter eight is concerned with the protection of the consumer, and chapter nine deals with the general problem of state control of business.

The recommendations of the Royal Commission are summarised in a preface to the report. They are very numerous and varied, and only a few of the more important ones can be mentioned here. (1) Amendments to the Dominion Companies Act, some of which have since been presented to Parliament in Bill 85. (2) A large number of recommendations on the subject of labour legislation, the most important being "national regulation of employment conditions preferably by Dominion legis-

[1] See K. W. Taylor, *Economic Implications of the Price Spreads Report*, to be published in the *Canadian Journal of Economics and Political Science*, August 1935.

[2] A. A. Berle and G. C. Means, *The Modern Corporation and Private Property*. New York, 1932.

lation, if feasible, or alternatively by inter-provincial co-operation"; some minor recommendations have been embodied in Bills presented at the present session of Parliament, *e.g.* Bill 71, intended to extend the scope of the Industrial Disputes Investigation Act; Bill 73, which amends the Criminal Code, making it an indictable offence to employ a person at less than the minimum wage rate fixed by law, to employ a person to work beyond the maximum hours fixed by law, or to falsify any employment record required to be kept by law, and Bill 75 respecting "fair wages and hours of labour in relation to public works and contracts." (3) Establishment of a Live Stock Board and a Fisheries Control Board; nothing has been done to implement this recommendation, but a minor revision of the Live Stock and Live Stock Products Act has been presented as Bill 72. (4) Extension of the functions of the National Research Council to include the preparation of consumer standards and the testing of consumer products; this is provided for by Bill 86, "An Act to establish a Dominion Trade and Industry Commission." (5) Amendment of the Weights and Measures Act, provided for by Bill 70. (6) Amendment of the Criminal Code to strengthen the law against misleading advertisement, provided for in Bill 73. (7) The establishment of a Federal Trade and Industry Commission to administer a revised Combines Investigation Act, to regulate monopolies when competition cannot, or should not, be enforced, to prohibit unfair competitive practices, etc. Bill 86 creates such a Board, but its members are to be the members of the already hard-worked Tariff Board. Bill 79 provides for the amendment of the Combines Investigation Act. Bill 73, amending the Criminal Code, introduces clauses relating to discrimination and unfair competition. It is unnecessary to compare in detail the recommendations of the Commission with the Bills presented by the government, and amended by Parliament; it is enough to say that the government programme does not satisfy Mr. Stevens. One may add that the power of the Dominion government to enact most of the legislation advised by the Commission and some of that presented to Parliament is seriously in doubt. Such are the added difficulties of social control in a federal state.

Finally, one should draw attention to the able Minority Report of Mr. E. J. Young (pp. 288–307). Mr. Young is right in stressing the need for remedying the disparity between the prices of primary and secondary products. One can sympathise with his rejection of social control, administered in the spirit of price maintenance,

but one cannot feel too optimistic about the effects of *laissez-faire* and one may dream of intelligent control.

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THE BANK FOR INTERNATIONAL SETTLEMENTS

Fifth Annual Report (1934–5), (*Basle*, 1935)

THIS Annual Report has now established itself as the outstanding authority on the principal statistics relating to gold and currency. The issue for 1935 maintains the excellence of its predecessors and supplies much information of first-rate importance which is not easily available elsewhere. Some of the matters dealt with can be usefully summarised as follows.

The various countries of the world are classified by reference to their relationship to gold and sterling respectively. Only France has fully maintained the free delivery of gold to all comers at a fixed parity. But in addition to the other countries admitted by the B.I.S. as members of the gold block—namely, Holland, Italy, Poland and Switzerland—there are also the following countries where the most representative exchange quotation is kept directly or indirectly in a stable relation to gold—namely, Albania, Belgium, Bulgaria, Cuba, Czecho-Slovakia, Danzig, Germany, Greece, Iran, Latvia, Lithuania, Mexico, Roumania, Spain, Turkey, U.S.A., Uruguay and Jugo-Slavia. The members of the sterling block are reckoned as including the following: Argentine, Australia, Bolivia, Brazil, Colombia, Denmark, Egypt, Esthonia, Finland, Gt. Britain, India, Irish Free State, Japan, Norway, New Zealand, Paraguay, Portugal, Siam, Straits Settlements, Sweden, Union of South Africa and the British Crown Colonies. There are three silver territories, China, Hong Kong and Manchukuo. The above three groups comprise the whole world except Canada, which is linked rigidly neither to gold nor sterling, Hungary with a theoretical gold currency but actually trading under clearing arrangements at depreciated rates, and certain South American countries difficult to classify. This classification gives a picture of much less chaos than is ordinarily supposed to exist. So long as the *de facto* fluctuations of gold in relation to sterling are moderate, no one can complain that the world's exchanges are wild and unpredictable. Indeed, it should be obvious that the world's troubles are due to other causes than the fluctuation of the exchanges.

The supply of new gold from the mines has reached a new record figure, and is now approaching 50 per cent. greater than in 1929 and the preceding years—namely, 2904 million Swiss francs in 1934, as compared with 2098 million in 1929. The most striking feature is the great upward bound in Russian production, which is now five times as great as in 1927, and has brought Russia to the second place among the gold-producing countries. Russian gold exports delivered in Berlin during the past four years are valued at nearly 1000 million Swiss francs, or about £66 million. This has played an essential part in reducing the short-term foreign indebtedness of the U.S.S.R., which had risen to 3750 million Swiss francs at the end of 1931, to the almost negligible amount at which it now stands. The emergence of the U.S.S.R. into the position of conducting its foreign trade on a cash basis has been one of the most striking developments of the last four years.

The net exports of hoarded gold from Asia in 1934 were at almost exactly the same figure as in 1933—namely, 875 million Swiss francs—bringing the total amount dishoarded in the four years 1931–4 to the prodigious total of 3437 million Swiss francs. Since the amount of old gold surrendered by the public in the rest of the world was probably sufficient to meet the industrial requirements, the whole of the newly mined gold and the exports from the East—namely, 3779 million Swiss francs—was available for currency purposes and new hoards.

In its estimates of new hoards the Report is more guarded than last year, and suggests that its previous figures may not have made enough allowance for changes in the holdings of the British Exchange Equalisation Account. The mystery maintained concerning this account, which seems unnecessary, unfortunately makes hay of the gold and currency statistics of the whole world. It is clear, however, that there can have been no addition to private hoards in 1934 unless the releases from the stocks of the British Equalisation Account were very large indeed. For the published gains in the gold reserves of banks of issue and Governments amounted to 4950 million Swiss francs, which was 1171 millions in excess of the new gold from the mines and the East. Unfortunately, this great increment did nothing to level up the situation as between different countries. Those in a weak position became weaker, and more than the whole of the new gold was added to the pre-existing reserves in France and U.S.A. The stocks in these two countries increased by 5443 million Swiss francs, so that in spite of the vast access of new gold the banks of

the rest of the world lost 493 million Swiss francs of gold. The report sums up its observations concerning private hoards by estimating that the amount so held on private account at the end of 1934 was of a magnitude of 7000 million Swiss francs, of which close on a half was held in vaults in London.

A further matter on which this Report has been accustomed to give us valuable statistics is that of the gross amount of the international short-term indebtedness of European countries and the U.S.A. As mentioned last year, the global total had fallen from approximately 70,000 million Swiss francs at the end of 1930 to about 32,000 million at the end of 1933. The further small reduction of 2000 to 3000 millions in 1934 is probably only a reduction in gold value due to the further depreciation of sterling and the dollar. The monetary and banking reserves of the sterling area held in London are estimated to have increased by about £150 million between 1932 and 1934.

Considerable progress was made in 1934–5 by the chain of Dominion Central Banks, in the establishment of which the encouragement and advice given by the Bank of England have played an important part. The Reserve Bank of New Zealand opened on August 1, 1934, and the Bank of Canada on March 11, 1935, whilst the new Reserve Bank of India was founded in March 1935.

The Report concludes with an interesting section on the principles of co-operation between Central Banks and the objects at which such co-operation should aim. The management of the B.I.S. would clearly favour experiments and evolutionary changes :—

> They recognise that an international gold standard is a living, not a static, thing and that the lessons of continuing experience are capable of improving it. They appreciate that in the future more conscious (and preferably joint) direction is requisite to enable the system to function in a more satisfactory and human manner. The strictly automatic working of the gold standard is possible only in a world where the play of other economic and financial phenomena is permitted to be automatic also.

They deplore " the tradition and habit of secrecy " on the part of Central Banks. They even make the admission that :—

> Central Banks have often under-estimated even the limited extent of their capacity to act upon price levels over the credit medium, not only because this is but one of the forces affecting the price structure, which may be offset by others, but more especially because any popular illusion that central banks alone have adequate powers to govern prices in general would constitute a fallacy most dangerous to foster.

But, in practice, everything is reduced to futility by the fact that the B.I.S. is a Club where the suggestion of any deviation from

the principle of fixed gold parities is bad form and worse. Take, for example, a dubious passage at the beginning of the Report, as follows :—

> When the internal improvement that has been made in some countries with depreciated currencies has been summed up, it will be found that the number of unemployed is still twice as high as it was in the years 1927 to 1928, when these countries, under the régime of the gold standard, enjoyed the advantage of stable foreign exchange rates.

The highly intelligent staff of the Club have to keep up the pretence that, if only everyone would wear the old club tie again, the world's economic troubles would be at an end and we should enjoy a "fundamental, durable recovery." But I hope that, all the same, they will keep up a stout heart beneath their polite exterior. Even the minds of the governors of Central Banks (or, if not their minds, their identity) change from time to time. The day of the B.I.S. may yet come when it will play the part which its founders designed for it as an enlightened organ of international co-operation.

J. M. KEYNES

OBITUARY

ANDREW ANDRÉADÈS (1876–1935)

WE much regret to announce the death on May 29, 1935, of Professor Andréadès, who had been the correspondent of the Royal Economic Society for Greece since 1905. He had resigned his Chair in the University of Athens a few weeks previously on account of ill-health. Andréadès had been an old friend of Professor Edgeworth, and the present editor looks back to many pleasant meetings with him through Edgeworth's introduction, on the occasions of his periodic visits to England extending over many years. He was a man of international habits and outlook. He wrote several of his books in French and several in English. But he was deeply loyal to modern Greece and to Athens, where he had taught economics for more than thirty years (lecturer in 1902, Professor of Economics in 1906), and it is characteristic that his most solid and learned works concerned Greek and Byzantine economic history and were written in Greek. He was greatly in his element, debonair and handsome and elaborately courteous, representing his country at international assemblies—the Peace Conference, the Danube Conference in Paris, 1920–21, the Assembly of the League of Nations, 1923, 1924 and 1929, and finally the World Economic Conference in London in 1933. He was a Doctor of Lyons, Louvain and Paris; an academician of

Cairo, Bucharest, Munich, Paris and New York; held the C.B.E., the Legion of Honour, and Greek, Italian, Belgian, Rumanian and Serbian orders.

Andréadès became well known to English economists early in life through his "History of the Bank of England from 1640 to 1907," originally published in French in 1904 and translated into English in 1909, which was for long the standard work on the subject. But he also wrote many minor works on English topics, including "Gladstone the Economist and Financier" (in Greek), "Lord Salisbury and Greece" (1910), "Sir Charles Dilke and Greece" (1918), "Philip Snowden" (1930 in French and English), and "La Population Anglaise avant, pendant et après la grande Guerre" (1924).

His major works, however, were those written in Greek on the financial history of the Greek world—Greece itself, the islands and Byzantium—from the earliest times to the present day. Beginning with his "History of Greek National Loans from the time of the Revolution to 1863" (1904) and "The Financial and Economic Condition of Greece and the Surrounding Countries" (1914), these studies (moving backwards in time) culminated in his *magnum opus* *Ἱστορία τῆς Ἑλληνικῆς Δημοσίας Οἰκονομίας* (1st ed. completed in 1914, published in 1918; 2nd ed. vol. I, 1928, vol. II, 1930), of which an English translation was published by the Harvard University Press in 1933 under the title of "The History of Greek Public Finance." [1] The first volume covers the period from the Homeric age to the loss of Greek independence at Chaeronea; and the second volume the Hellenistic period. The third volume was to have dealt with the Byzantine period. Andréadès' monographs on the obscure but fascinating field of Byzantine public finance, for which abundant material, largely unexplored, exists, were probably his most original and path-breaking contributions to knowledge. Professor Norman Baynes wrote to *The Times* on the occasion of his death that: "No living scholar had so profound a knowledge as he of the economics of the East Roman Empire." He did not live to complete his enormous task, but a sketch of the economic development of the Byzantine Empire, completed shortly before his death, will appear in a book to be published by the Oxford University Press. The characteristic quality of Andréadès' historical monographs can be seen in his three contributions to the "Economic History" supplement of the ECONOMIC JOURNAL: "The Finance of Tyrant

[1] The Greek version of this book was reviewed in the ECONOMIC JOURNAL, Dec. 1930, p. 686, and the English version, Dec. 1933, p. 696.

Governments in Ancient Greece" (1930), "The Capital Levy in Ancient Athens" (1931), and "The Jews in the Byzantine Empire" (1934).

Andréadès was a man of wide culture, almost as much interested in literature and the arts as in politics, economics and history. He was chairman of the committee for the Byron Centenary in 1924. He wrote a book on "Le Théâtre Anglais contemporain" (1925), and a similar volume on the Viennese Theatre. I last saw him in a box at Covent Garden enjoying a performance of ballet.

J. M. Keynes

Edward Shann

By the sudden death on May 23rd of Professor E. O. G. Shann the Australian economists have lost their senior member, and the public of Australia a high-minded and devoted servant. Professor Shann had only this year taken up his duties as Professor of Economics in the University of Adelaide. He had already occupied teaching posts in three Australian Universities, the most important being the Chair of History and Economics in the University of Western Australia, where he is rightly regarded as one of the founders of the University. "To nothing," stated the Chancellor of the University of Western Australia recently, "did he give with such rich and overflowing measure as he gave to the University he helped to mould and which he so unselfishly loved." His intellectual interests were so wide that he was able to mould the development of the University in fields beyond the two subjects immediately under his charge. He had, moreover, a great faith in the work of the Australian pioneer, and it appealed to him to be one of these pioneers in the development of education. He was both a keen and an appreciative student of Australian political and economic affairs. During his long period of apparent academic isolation in the West he was able to take a detached view of the economic policy of his country. It was in this period that he wrote his best-known book, *The Economic History of Australia.* Towards the end of the period (in 1927) he produced also a brilliant essay, *The Boom of* 1890 *and Now.*[1] In the light of subsequent development this work was prophetic. It was, according to a sub-title,

[1] His chief publications were: *The Economic History of Australia* (Cambridge University Press); *The Boom of* 1890 *and Now* (Angus and Robertson); *Cattle Chosen* (Oxford University Press); *Quotas of Stable Money* (Angus and Robertson); and, with D. B. Copland, *The Crisis in Australian Finance,* 1929–31; *The Battle of the Plans*; *The Australian Price Structure,* 1932.

"a call to Australia to put her house in order lest drought and falling prices for wool and wheat overtake us again."

Three years after the appearance of this essay Shann was summoned to a post in the East, where he found himself heavily engaged in helping to guide his country through the disaster which he had all too clearly foretold. He played a prominent part in moulding banking policy and in developing what afterwards came to be known as the Premiers' Plan. It was only the Premiers' Plan because it had to be adopted by Premiers. The plan was, in fact, a composite product of the Australian economists, and Shann's part in its enunciation was all-important. He greatly assisted in bringing the economists together, and in giving them a focal point through which they could influence banking and financial policy. He went about among bankers, under-treasurers, premiers and politicians, persuading them that drastic situations required drastic remedies. He was against undiluted deflation as a solution, and as the depression deepened his belief in monetary policy as a way of escape increased. He carried this belief to Ottawa in 1932 and to the World Economic Conference in 1933. In both places he worked untiringly to bring about a declaration of policy by the British Commonwealth of Nations. It was a "wider planning, a monetary policy that would permit of recovered equilibrium, and an expansion of consumers' demand" that was the goal of his endeavour in these years. As one who worked close to him over a considerable period of the crisis, I can testify to the skill with which he spread the faith that was in him. Not many economists get the opportunity; few would have used it as Shann did. So he leaves behind him a deservedly high reputation as an economist, who in his country's emergency showed both the experienced government official and the banker how much could be done by pursuing an independent monetary policy with a sense of responsibility. He knew his Australian as a person whose sense of responsibility is greatest in an emergency, and in the crisis his Australian did not disappoint him.

Shann was not happy away from his academic work. His independence was threatened, his love of teaching unsatisfied and his capacity to take long views impaired. So he returned to the University, and in Adelaide this year he was working out in the light of his experiences a fresh approach to his teaching of Economics. It was the sort of thing he liked, and its final statement would have been of great value to us all in Australia. On the afternoon of May 23rd I received a letter from him expressing in his gayest manner—and he could be very gay—his

desire to co-operate in producing a new book of documents on Australian policy. Some of this new approach would have been reflected in that book. The same evening I was informed of the accident that befell him. Economic Science is the poorer, because Shann brought to the solution of his country's problems a knowledge of economic theory combined with an understanding of her economic and political development. He was a happy combination of the expert and the wise counsellor, and so his success as an economic adviser was assured.

D. B. COPLAND

CURRENT TOPICS

THE following have compounded for life membership of the Royal Economic Society :—

Condliffe, Prof. J. B.
Hunter, W. E.
Latham, W. J. L.
Prest, W.
Sebag-Montefiore, J. M.
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Winterbottom, I.
Wolkiser, Dr. A. M.

The following have been admitted to membership of the Society :—

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Alexander, J. W.
Attwood, J. C. P.
Balson, W.
Banerjea, S. R.
Beaumont, J.
Bedi, K. C.
Bell, H. C. M.
Benemy, F. W. G.
Bhathena, A. S.
Bhiwandker, R. B.
Bindra, D. S.
Binns, K. J.
Braham, B.
Britzelmayr, Dr. W.
Campbell, R. M.
Chang, S. T.
Chatterjee, A. B.
Cogar, G. W.
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Green, A. L.
Green, H.
Greenhalgh, R.
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Grinberg, M.-Ph.
Grist, C. G.
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Hamid, J. A. O. A.
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Jain, L. R. A.
Johnson, Miss A.
Jones, W. D. S.
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Kannan, Y. C.
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Leathem, S.
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Mackenzie-Bell, E. A.
Mackie, J. B.
Magin, A. J.
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Medici, Prof. G.
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Smith, P. W. G.
Smith, W. J.
Stevens, W. H.
Stevenson, James.
Stevenson, John.
Sullivan, J. J.
Swaminathan, S.
Tandon, P. L.
Taylor, G. B.
Thomas, C. O.
Topham, H.
Townsend, B. H.
Tulip, A. J.
Vaswani, K. N.
Venkatappayya, V.
Venning, H. C. W.
Ventress, C. W. P.
Waddell, R. R.
Wilson, J. H.
Wilson, R. C.
Wilson, S. N.
Wingfield, R. A.
Winship, A. T.
Withall, L.
Woodruff, G. P.
Wright, G. M.
Zaki, M.

The following have been admitted to Library membership of the Society :—

Bank of Canada, Ottawa.
Bureau of Economic Research, Sun Yatsen University, Canton.
Bureau of Statistics, Ministry of Industries, Nanking.
Nihon Kogyo Club, Tokyo (Composition for fifteen years' subscriptions).
Raffles College, Singapore.

The Department of Economics of Harvard University has been enabled by a grant from the Rockefeller Foundation to continue the research in the field of business fluctuations which for many years was conducted by the Harvard University Committee on Economic Research and later by the Harvard Economic Society, Inc. The Department has set up a committee including Professors Schumpeter, Crum, and Harris to supervise this research and to serve as editors of the revised Review of Economic Statistics. It is hoped that the Review may serve as the American vehicle for articles dealing with the problem of the trade cycle—theoretical, analytical, and historical—and that

it may provide facilities for the publication in the United States of the results of European research.

The Agricultural Economics Society has decided to offer two annual prizes of £10 and £5 respectively for essays on subjects connected with the economics of agriculture. Competitors must be either students at recognised institutions or holders (of not more than two years standing) of degrees and/or diplomas in agriculture and/or economics. Essays for the current year must be sent in by the 30th June, 1936, and must be on one of the following subjects :

(*a*) The influences of machinery on systems of agricultural production in Great Britain *either* (*a*) 1870–1913 or (*b*) 1914–35.

(*b*) Rationalisation of British agriculture and the system of Land Tenure.

(*c*) Influences of British International loans on imports of food-stuffs and agricultural production in Great Britain.

(*d*) Influences of consumers' demands on agricultural production.

(*e*) Trends of production in British agriculture.

Further particulars of the conditions can be obtained from The Honorary Secretary, The Agricultural Economics Society, University of Reading, 7, Redlands Road, Reading.

The Third Volume of the Proceedings of the International Conference of Agricultural Economists, which included the papers read at the Third International Conference held in Germany during August 1934, is now published. The price to the general public is 17*s*. 6*d*., but copies are available to members of the Royal Economic Society at 15*s*. post free. Copies of volumes I and II containing the papers prepared for the Conferences held in 1929–30 can also be supplied to members of the Society at 9*s*. 6*d*. post free and 11*s*. post free respectively.

Members who wish to avail themselves of this offer should address themselves to : J. R. Currie, Esq., Secretary and Treasurer, Research Department, Dartington Hall, Totnes, Devon, and not to the Secretary or Assistant Secretary of the Royal Economic Society.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society.

PART II, 1935. *The Limits of Industrial Employment (II): Influence of Growth of Population on the Development of Industry.* E. C. SNOW. *Road Transport in Great Britain since the War.* K. G. FENELON. *Wholesale Prices in 1934.* Editor of *Statist.*

Economica.

MAY, 1935. *Bacon Production and the Pig-Cycle in Great Britain.* R. COASE and R. FOWLER. *The Modification of the Utility Curve for Money in the Cases of Indivisible Goods of Increasing Utility.* U. RICCI. *Taxation and the Relative Prices of Factors of Production.* F. C. BENHAM. *Mr. Gilbert's Defence of a Constant Circulation.* E. F. M. DURBIN.

The Manchester School.

NO. 1, 1935. *Growth and Fluctuations of Bankers' Liabilities to Customers.* E. CANNAN. *Bentham on Government.* A. L. DAKYNS. *Surplus Capacity in the Lancashire Cotton Industry.* T. D. BARLOW. *The Terms of Trade.* J. INMAN. *Outline of a Scheme to Promote Employment in Agriculture.* D. CARADOG JONES.

World Survey.

MAY, 1935. *Monetary Policy and Gold: The Case for Economic Measurement.* G. D. H. COLE. *Power as a Factor in Planning. Income Distribution and Mechanisation.* H. E. CAUSTIN. *Annual Report of the World Power Conference. The Increasing Productivity of Labour. World Economic Service: World Copper Situation. World Economic Indices.*

The Sociological Review.

JULY, 1935. *The Individual and Society.* ERNEST JONES. *Ability and Educational Opportunity in Relation to Parental Occupation.* J. L. GRAY and PEARL MOSHINSKY. *The Surplus of Women and the Declining Birth-rate.* IDA HIRSCHMANN.

International Labour Review.

MAY, 1935. *Unemployment among Young People.* H. FUSS. *Economic Recovery and Labour Market Problems in Sweden: II.* B. OHLIN. *The Danish Social Reform Measures.* K. K. STEINCKE.

JUNE, 1935. *Unemployment in Argentina.* E. SIEWERS. *Unemployment among Young People in Australia.* G. R. GILES. *The Contract of Employment: I.* E. HERZ.

The Economic Record.

JUNE, 1935. *The Reports of the Wheat Commission.* L. F. GIBLIN. *International Comparisons of the Cost of Living.* D. T. SAWKINS. *Manufacturing Profit in New Zealand.* G. C. BILLING. *Western Australia's Agricultural Bank.* G. TAYLOR. *Price-fixing in New Zealand.* W. B. SUTCH. *The Dairy Industry Commission, New Zealand, 1934.* J. O. SHEARER.

The Canadian Journal of Economics and Political Science.

MAY, 1935. *The Reserve Bank of South Africa.* J. P. DAY. *Canada's Optional Payment Bonds.* W. T. G. HACKETT. *The Ricardian Theory of Production and Distribution.* F. H. KNIGHT. *Population Movements in Canada, 1921–31.* W. B. HURD and JEAN C. CAMERON. *Notes on Prices of Agricultural Commodities in the United States and Canada, 1850–1934.* H. MICHELL.

The South African Journal of Economics.

JUNE, 1935. *The Gold-mining Industry and the Gold Standard.* A. J. LIMEBEER. *Some Doubts concerning Early Land Tenure at the Cape.* H. M. ROBERTSON. *Some Fundamental Questions on Economic Planning.* E. WHITTAKER. *The Dairy Industry in South Africa, with Special Reference to the Export of Butter.* J. G. KNEEN.

The Quarterly Journal of Economics.

MAY, 1935. *Controlled Competition and the Organisation of American Industry.* K. PRIBAM. *The Quantitative Position of Marketing in the United States.* J. K. GALBRAITH. *Sociological Elements in Economic Thought. I. Historical.* TALCOTT PARSONS. *Fluctuations in the Rate of Industrial Invention.* R. K. MERTON. *The Theory of a Single Investment.* K. E. BOULDING.

The American Economic Review.

JUNE, 1935. *Volume of Production and Volume of Money.* A. G. B. FISHER. *Joint Costs in Multiple-Purpose Projects.* H. M. GRAY. *British Export Credit Insurance.* E. B. DIETRICH. *Exchange Rates under Inconvertible Currencies.* H. J. WHITE, Jr. *Industrial Expansion in South America.* D. M. PHELPS.

The Journal of Political Economy.

JUNE, 1935. *State Supervision of Local Finance.* H. L. LUTZ. *Money and Production.* W. EGLE. *The Joint-Stock Company in England, 1830–44.* C. HUNT. *Building Costs in the Business Cycle: with Particular Reference to Building sponsored by Governments in the United States.* W. D. CONKLIN.

Annals of the American Academy of Political and Social Science.

MAY, 1935. *The Background of Group Pressure in the United States. Evolution of Business Groupings.* C. E. BONNETT. *Trade Unionism and the American Federation of Labour.* G. G. GROAT. *The Technique of Exerting Group Pressure. Pressure Groups, Propaganda, and the New Deals. The Chamber of Commerce and the New Deal.* R. J. SWENSON. *The Place of Propaganda in Modern Life.*

Wheat Studies (Stanford, California).

APRIL, 1935. *Spreads between Wheat Prices in England.* In this Study are presented data on wheat price spreads in the United Kingdom, which is the largest wheat import and sample market of the world, between 1925 and 1934. The amounts of the spread in monetary units, the percentages of the high wheat prices therein represented and the ranking of the several wheats are tabulated and classified. It is pointed out that British millers have a wide scope of mixing, and the conclusion is reached that fixed prices are neither in their interest nor in that of British consumers.

MAY, 1935. *World Wheat Survey and Outlook, May 1935.* Developments in the world wheat situation from January to May were dominated by the continued failure of European import buying to improve, and shipments to Europe from August to April were the smallest on record since 1917, and 14 million bushels less than last year. This is due both to stringent Government control of imports and to reduced consumption. Liverpool futures prices suffered a gradual decline till mid-March, rose to a peak in mid-April, but have since continued to decline. It is anticipated that there will be a considerable decline in world net exports of wheat for the year and that world stocks will still be far above normal. However, the increase forecast for the Northern Hemisphere crop seems likely to be offset by the reduced supplies in the Southern Hemisphere and minor exporting countries, and Liverpool futures prices will probably be sustained through July.

Econometrica.

JULY, 1935. *Suggestions on Quantitative Business Cycle Theory.* J. TINBERGEN. *On the Independence of* k *Sets of Normally Distributed Statistical Variables.* S. S. WILKS. *A Macrodynamic Theory of Business Cycles.* M. KALECKI.

Revue d'Économie Politique.

MARS-AVRIL, 1935. *La Reprise britannique et ses causes.* M. BYÉ. *Essai d'une théorie du mouvement cyclique des affaires.* M. KALECKI. *La crise des chemins de fer et l'organisation des transports.* H. PARODI. *Y a-t-il trop de travailleurs étrangers en France.* S. WLOCKESKI.

Revue de L'Institut de Sociologie.

AVRIL-JUIN, 1935. *Analyse de la première série des Communications au XIIe. Congrès de l'Institut international de Sociologie.* G.-L. DUPRAT.

Weltwirtschaftliches Archiv.

MAY, 1935. *Protektionismus und Volkseinkommen.* PROF. B. OHLIN. The theory that the National Income of a country is necessarily greatest under Free Trade rests upon a number of assumptions which are not always fulfilled, and the author quotes a series of cases to illustrate his argument that it will often be increased under Protection. In a country which is not in equilibrium or which is passing through a depression, as has been the universal case since 1931, tariffs have a remedial effect, the degree of benefit depending upon the magnitude and duration of the depression, the stage at which they were imposed and various other factors. They also provide a measure against dumping and, in conjunction with export bounties, an alternative to currency devaluation. *Neue Probleme der Aussenhandelstheorie.* G. DEL VECCHIO. Ricardo's theory of Comparative Costs applied to the *laissez-faire* England of the nineteenth century and the present situation, where increased extent of Government Control of Industry provides the necessary conditions for Protection, calls for a new theory of International Trade. The tariff presents a valuable bargaining weapon and the dangers of retaliatory measures by other States are often greatly exaggerated. The effects of currency devaluation under various conditions are examined and the conclusion reached

that a country should not sacrifice its internal stability in order to adjust its monetary system. *Wahrung, Wirtschaft und Aussenhandel.* W. VOLWASSEN. The author examines the same problems as in the two previous articles, with particular reference to the question of foreign exchanges. *Wirkung der Neustaatenbildung in Nachkriegseuropa auf Wirtschaftstruktur und Wirtschaftsniveau.* P.-H. SERAPHIM. The creation of new states in Europe on political rather than economic lines by the Treaty of Versailles has given rise to many problems. The author deals with the question of shifting populations, the transformation of agrarian countries into semi-industrial ones and their struggles to increase exports and find markets and the character of the new inter-State commerce.

JULY, 1935. *Einwirkungen der langen Wellen auf die Entwicklung der Wirtschaft seit* 1800. L. H. DUPRIEZ. An account is given of some work recently done in Louvain where statistics have been prepared from Belgian figures to throw new light on the long waves of economic development. Doubts are expressed as to whether the discrepancy between increase in gold supply and increase in trade volume offers a sufficient explanation. *Arbeitsproduktivität und Aussenhandel.* M. MANOILESCO. The author holds that it is not in the interest of agricultural countries to import industrial products even if it is cheaper to import them than to produce them at home, because the productivity of labour applied to industrial production will generally be much higher than that of agricultural labour. Price in money and price in labour must be distinguished. The differences of labour productivity are illustrated by a statistical analysis of the Rumanian economy. *Aufbau- und Krisenprobleme der iranischen Volkswirtschaft.* A. TISMER.

Jahrbücher für Nationalökonomie und Statistik.

JUNE, 1935. *Japans Imperialismus in der Ostasiatischen Wirtschaft.* PROF. F. ZADOW. An account of the history and character of Japan's Imperialism, the methods by which her expansionist policy is being fulfilled and her social and economic structure. She is not likely to go to war with the U.S.A. or with the U.S.S.R. in the near future, and Great Britain, being the greatest Imperialist country, is her real enemy. *Der Gutertarif der Eisenbahnen als Mittel der Aussenhandelspolitik.* S. L. GABRIEL. Tariffs on goods travelling by rail can serve to stimulate exports and discourage imports and can be applied, in conjunction with commercial treaties, as political weapons. The author considers the extent of their application hitherto and forecasts an increase in this. *Über Landwirtschaftliche Absatzgenossenschaften.* C. BRINKMANN. An examination of the efficacy of agricultural co-operative associations as a means of defence against industrial interests, of eliminating the middleman and of protection against market fluctuations and the dangers of over-production. *Jungste Entwicklung und Gegenwartige Verfassung des Deutschen Realkreditmarktes.* W. HUNECKE. The events of 1931 upset the German capital market and the cessation of long-term lending led to a diminution of building activity. With the present low rates of interest and the amount of unemployment, the time is ripe for a renewal of building activity, and an organisation should be set up to provide capital for this

purpose. *Der Kampf Gegen die Agrarkrise in Polen.* E. JUNGERMANN.

July, 1935. *Bankgesetzgebung und Währungspolitik im Rahmen der Krisenbekämpfung in den Vereinigten Staaten.* G. SCHMLÖDERS. A review of the banking and monetary policy of the American Government since 1930. Three phases are distinguished: a phase of crisis during which the State tries to assist the private banks (Reconstruction Finance Corporation) and makes the necessary legal preparations for an active monetary policy (Glass-Steagall Bill) characteristic of the second phase of struggle in which the State tries to overrule both the private banks and the Federal Reserve System. The third phase is that of stabilisation. A new division of power is developed, the State abstaining from monetary experiments but embarking on a public works policy. *Gemeinwert und Gemeinwertung.* K. V. BALAS. Marginal utility implying a valuation from an individual's point of view bears no relation to social value by which social and economic policy must be governed. *Der " Neue Plan " und die Neuordnung der deutschen Aussenwirtschaft.* B. BENNING. The author reviews Dr. Schacht's " New Plan " for overcoming Germany's raw-material difficulties and the foreign trade situation under the influence of exchange restriction and clearing agreements.

Schmollers Jahrbuch.

FEBRUARY, 1935. *Carl Johannes Fuchs.* An Obituary Notice by G. STOCKMANN. *Die Auslandische Erörterung um die Betriebliche Sozialpolitik.* L. H. A. GECK. A comparison of the developments of this science—there is no equivalent in English for this German word—in America, England and France since 1900. *Reklame und Konjunkturkreislauf.* F. REDLICH. The connection between advertisement and trade fluctuations is worked out and W. L. Crum's charts and tables illustrating the tendencies in America are criticised and improved methods suggested. *Karl Friedrich Vollgraf, Kämpfer im Vormarz für Rasse, Volk und Staat.* A. GUNTHER. *Zur Vorgeschichte des Weltkriegs.* J. HASHAGEN. A review of Hermann Oncken's book on the question of War Guilt and the policy of the statesmen of the German Empire.

JUNE, 1935. *Der Wandel des Wissenschaftsbildes Friedrich Lists.* A. SOMMER. By the recent publication of List's complete works his personality appears in a new light. He must no longer be considered as a liberal economist or a Protectionist, but as the great German statesman of the nineteenth century. *Die Wandlungen des Finanzliberalismus.* F. K. MANN. The author's thesis is that the English income-tax was a tory institution. Like Smith and Ricardo, the early liberal statesmen were fundamentally opposed to it. But they had to yield and to sacrifice their doctrines to necessity. It was only afterwards that the liberal economists and politicians began to justify the income-tax with liberal arguments, and the paradoxical result was that the anti-Liberals attacked the income-tax as a creature of Liberalism. *Die Wirtschaftgesinnung des mittelalterlichen Zünftlers.* A. VAN VOLLENHOVEN and E. KELTER. *Nichtinflatorische Papiergeldausgabe?* A criticism of proposals to increase employment by monetary measures based on the " credit fund theory." It is held that the proposals would lead to inflation unless there is some interference with freedom of

expenditure. The direct public works policy of the German Government is praised. *Schrifttum über Rohstoffwirtschaft.* K. WIEDENFELD. A review of books dealing with Germany's raw-material supply during the War, with the significance of the coal and iron industries during the War and the peace negotiations, and with the present raw-material situation in the textile industries. On the last some figures are given.

Vierteljahrsheft für Konjunkturforschung.

JUNE, 1935. *Welthandel und Handelspolitik.* E. WAGEMANN. A survey of the events of the crisis since 1929. The essentials for recovery are that importing countries should allow the entry of the productions of the greatest producing countries, that there should be a general revision of international debts and a return to a stable international currency. *Preisstruktur und Preisbewegung. Geht die Produktionsgutererzeugung der Verbrauchsguterproduktion Voraus? Die Wirtschaftslage in Deutschland. Die Lage der Weltwirtschaft.*

Archiv für mathematische Wirtschafts- und Sozialforschung.

No. 2, 1935. *Statistische und Mathematische Betrachtungen über Einige Geldliche Ausgleichsprobleme der Verwaltung.* G. F. BURKHARDT. *Über den Reziprozitatssatz der Gewinntheorie.* A. BERGER. *Die Grundlegenden Hypothesen der Neueren Preisanalyse.* H. VON STACKELBERG. *Elastizität von Angebot und Nachfrage.* A. TIMPE.

De Economist.

FEBRUARY, 1935. *Het vraagstuk van een tolunie tusschen Nederland en Belgie-Luxemburg.* D. C. RENOOIJ. A general discussion of customs unions, as illustrated by proposals for a customs union between Holland and Belgium-Luxemburg. The general conclusion is that under normal conditions such a union is neither impossible nor undesirable; that for such a purpose a complete union with uniform duties is to be preferred. The conclusion of such a Union is, however, to-day not practicable, since the measures connected with the crisis have increased the difficulties. In any case, economic *rapprochement* still remains desirable because of the evils of economic barriers; but the Convention of Ouchy in its present form is not appropriate to bring about this *rapprochement*. *De aanpassing gedurende de crisis van de loonen en de kosten van levensonderhoud aan de groothandelsprijzen in Oost-Aziatische landen. II.* D. J. HULSHOFF POL. A continuation of the discussion in the January number of the relation in Eastern countries between wages and cost of living on the one hand and wholesale prices on the other. The present article deals with Japan, Ceylon, Malacca, British India and Siam. A number of conclusions are drawn.

MARCH, 1935. *Verdediging eener synthetische loon- en rentetheorie.* R. VAN GENECHTEN. A reply by the author to criticisms, especially by Dr. Tinbergen, of his "synthetic" theory of wages and interest. *Centralisatie en coordinatie in Argentinie's bank- en geldwezen.* J. BARUCH. A discussion of the five measures passed last year by the Argentine Government for a complete reform of the banking and currency system : (i) for establishing a

Central Bank; (ii) for defining the relations of other banks to the central bank; (iii) for creating an institute to take over and liquidate the frozen credits of the banks; (iv) for effecting certain changes in the law regarding the already existing official banks; (v) for providing for the transition from the existing to the new conditions. The article discusses the existing position and the five measures in detail.

APRIL, 1935. *Het conjunctuurverloop in de Vereenigde Staten van Amerika sedert begin 1923.* A. J. W. RENAUD. A consideration of the "Harvard Barometer," its basis and its implications. *Loonpolitiek en werkloosheid.* K. F. MALLÉE. The writer establishes a comparison between views expressed in a pamphlet written by him and corresponding views of Professor Pigou in the ECONOMIC JOURNAL of September 1927.

Giornali degli Economisti.

MARCH, 1935. *Il significato di alcune moderne teorie matematiche della dinamica economica. Parte prima.* A. BORDIN. An exposition and discussion of the views of Della Riccia, Amoroso, Roos and other mathematical economists on the relation between static and dynamic problems in economic theory. *L'autotassazione del contribuente.* L. ROSSI. *La fecondità legittima, secondo l'età delle madri, nelle varie parti d'Italia.* L. LENTI. The fertility of married women, which is greatest in the north of Italy in the age group 15–20, is greatest in the age group 21–24 in southern Italy, where it remains high until after the age group 35–39. This indicates the lesser degree to which the voluntary limitation of families has proceeded in the south than in the north of Italy. *Nuovi dati sulla natalità in Italia.* G. MORTARA.

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THE ECONOMIC JOURNAL

DECEMBER, 1935

ECONOMIC NATIONALISM AND INTERNATIONAL TRADE [1]

I

Economic self-sufficiency is no new phenomenon. The tendency to national exclusiveness is as old as human nature itself and it by no means calls for unrestricted condemnation. Indeed, in spheres other than the economic, nationalism and national movements have made no small contribution to the general progress and the happiness of mankind; and we could contemplate, if not always with unfeigned admiration at least with a considerable degree of equanimity, the diversity in civilisation, in language and in culture which is due to the multiplication of small countries and to the determination of national groups to resist by every possible means attempts at assimilation by larger and by more powerful peoples.

Generally, when national movements arise they spring from motives other than economic; and in earlier times purely economic weapons were not of importance in the struggles which ensued. This, of course, was due not to reluctance to employ any weapon which came to hand, but rather to the fact that the economic sword had not really been tested and there was as yet no ground for confidence that it would prove effective. In modern times, however, it has, or is thought to have, become indispensable. It may, therefore, be worth while to consider some of the reasons for this belief. Before doing so, it is necessary to draw a contrast between the world of to-day and the world of a short time ago. For the purpose in view the period immediately prior to the War will serve very well.

II

First and foremost, the peace treaties of 1919 and following years increased the number of countries and national boundaries

[1] Presidential Address before Section F of the British Association, Norwich, 1935.

in Europe. In all these new areas trade barriers were immediately set up to protect industries the establishment of which was encouraged and often financed by the states themselves so that they might have under direct control in their own territories as many as possible of the processes necessary for the production of armaments. As it is not difficult for producers of very wide ranges of commodities to persuade governments that their own special products are essential, or, alternatively, that their factories can readily be adapted for the manufacture of war materials, the field embraced in these new protective systems was progressively extended until it soon covered the whole range of agricultural and industrial activity. Important, however, as was this stimulus to economic self-sufficiency it might have spent its force and gradually petered out if the structure of international relations had not at the same time been radically altered by a change in the mutual indebtedness of nations, which occurred with such rapidity as to render impossible smooth readjustments to the entirely new conditions thus created. This transformation from debtor to creditor, which was the experience of the United States of America, and from creditor to debtor, the outstanding example of which was Germany, called for a complete reversal of the general attitude towards the Balance of Trade which up to that time had been current in the countries concerned. It demanded some re-orientation of ideas, also, on the part of other countries where the differences between the new and the old positions were of degree rather than of kind. Unfortunately, the line of least resistance was followed everywhere, both by statesmen and by peoples; and difficulties were accentuated instead of being surmounted.

A country which is on balance a debtor has gradually to build up credits abroad so as to pay the interest on its debts, to meet amortisation instalments or make provisions of some other kind for repayment. It can only do this by contriving to have a favourable balance of trade and this, in turn, can be secured only by an increase in exports, or a reduction in imports. A large increase in exports, however, is not always easy to effect for a country which is already highly industrialised. Such a community is largely dependent on foreign sources for its supplies of raw materials. For it, therefore, increased exports of manufactured goods means increased imports of raw materials which, in turn, have to be paid for by further exports. This is impossible unless the volume of foreign trade as a whole is increased at the same time. It is just because this latter increase is not taking

place, or is comparatively insignificant in amount, that older industrial debtor countries fail to build up the balances required from them by their creditors and that creditor countries, in turn, find it difficult to expand their export trade and at the same time pursue a policy of drastic restriction of imports. Further, if a country previously debtor becomes creditor the problems attending readjustment appear to it to be almost insuperable. In every case, in both debtor and creditor countries, there was marked reluctance to attempt any solution which might offer a reasonable promise of success. This was especially unfortunate; for no cause has contributed more to the present dislocation of international trade and to the financial and currency troubles accompanying it than this one outstanding fact—the reluctance or the inability of the countries concerned to handle the problems presented to them by their changes from general debtor or general creditor position to that of general creditor of or general debtor to the rest of the world.

Of the theoretically appropriate policy in the new situation thus created there never was any doubt. Creditor countries should have accepted additional imports from their debtors and encouraged them to build up favourable trade balances in the shortest possible time. This implies, of course, that exports from the creditor countries should have been discouraged and a drastic reconstruction of internal productive systems undertaken. Of the practical difficulties in the way of such far-reaching changes the economist is well aware; and he would have offered his sincere sympathy along with the maximum of encouragement to any statesman attempting the task. But to statesmen who not only shirked a duty admittedly difficult but who adopted a policy calculated even to increase the obstacles in the way of ultimate reconstruction he cannot be equally indulgent. The offer of loans to debtor countries by their creditors was a profound mistake; and disaster was inevitable when the borrowing and lending were mainly short-term. Long-term loans, which would have been more helpful by permitting time for readjustments, were discouraged by legislative restrictions in the debtor countries themselves as well as by the natural reluctance of the lenders to risk their money for any length of time in areas where disturbances, both economic and political, were liable to occur without preliminary warning. In such a nervous atmosphere alarms were inevitable; and a climax was reached in the summer and autumn of 1931. Since then the forces making for economic self-sufficiency have suffered little check in any country in the world.

It is from the events of this year, 1931, that the existing highly-developed system of barriers to international trade sprang, armed as it were overnight. The seed, however, had been sown long before; and tentative efforts by debtor countries to control transactions in foreign exchange and to reverse adverse balances of trade were not unknown several years prior to this date. But now, in addition to extensions of tariffs and the raising of existing rates, the device of the quota was developed to the full, and condemnation was passed on anything which, like the most-favoured-nation clause in commercial treaties, was designed to disentangle foreign trade from the obstacles which encumbered it. The more liberal of existing trade agreements were everywhere denounced and restrictive measures or one-sided bargains substituted. Currency difficulties in any country were used by its trade rivals as a pretext for further tariff increases on its merchandise. In a brief space of time the whole structure of foreign trade as it existed before the War was swept away; and nothing systematic or definitely planned has, so far, taken its place.

III

Apart from the predominant influence just noticed which precipitated the onset of this policy of economic nationalism in all its violence it is probable that, in any case, there would have been some accentuation of tariffs and high protection during the period considered. Conditions which formerly favoured freedom of trade in international intercourse have altered or have given way altogether to new alignments of economic forces which inevitably suggest Protection as the more desirable policy to pursue. It is worth while making a digression at this stage in order to examine these influences and to assess their importance in the general economic progress of the world since the early days of the Free Trade movement in Great Britain.

Before the discovery and opening up of large tracts of agricultural land in countries outside Europe the cultivation of the soil in the older countries was carried on under conditions of diminishing returns. Population, especially in the recently industrialised areas, in the first half of the nineteenth century was growing rapidly. This meant a rising cost of living due to continuous increase in the prices of food-stuffs; for the production of the latter could only be expanded at an enhanced cost per unit. Current economic doctrine, at that time dominated by Ricardo and his followers, compared the product of industry to

a cake to be divided among those who had contributed to its making. If wage-earners obtained a larger share profits were lower. It was, therefore, thought to be in the interests of industry to pursue a policy of free imports; for free imports, especially of food, meant low cost of living, low wages and, consequently, higher profits. The interests of agriculturists were overlooked, and in the struggle which ensued the industrialists gained a decisive victory in England. Free Trade won and the French commercial treaty of 1860 marked the end of the fight for a time. Much freedom of trade was won also in continental countries a little later than in England, although in their case agricultural opposition was never completely crushed.

Contrast this with the position to-day. Under stress of the War agricultural production was expanded everywhere, a technique almost entirely new was introduced and scientific aid of every kind enlisted, with the consequence that agriculture has come to be conducted, although perhaps only temporarily, under conditions of increasing returns. The rate of increase of population in the principal industrial countries has fallen and food prices are low. Ricardian economics are no longer authoritative and fears of scarcity have vanished. Industrialists, therefore, no longer have the motives they once had for maintaining free imports; and they are strengthened in the opposition they now offer to their former policy by the difficulties they encounter in export trade. Since many of them are mainly dependent on this trade they are driven to seek alternative markets at home to replace those they are losing abroad. It is only natural, therefore, that they should become advocates of the partial or complete exclusion of goods which are likely to compete with them in the single remaining market they control. The greater the fall in their exports the more uncompromising the support they lend to the movement towards economic self-sufficiency.

Again, in the first half of the nineteenth century freedom of trade facilitated the discovery of new markets and of new openings for capital. Notwithstanding warnings of the danger to investments in countries politically unstable, where effective supervision by foreigners was impossible, there was a very great export of capital from Europe to the rest of the world. In this England took the lead, although Ricardo was among those who pointed to the dangers; and, as export of capital is mainly export of goods and a country cannot hinder imports if it wishes to export, the Free Trade movement was of necessity welcomed in Europe by industrialists as well as by financiers. Now, however, foreign

investments have lost their attraction. Interest rates are scarcely commensurate with the risks involved and the danger of loss of capital has in no way diminished. Moreover, the time is past when even the most powerful government dare collect interest or principal of debts from foreigners for its own subjects by threat of military or naval demonstration. Holders of foreign securities have learned much through open repudiation of debts by revolutionary governments and through currency devaluation. They have also learned that if Free Trade is a necessary concomitant of freedom of foreign investment it is not worth retaining the former merely to assure a continuance of the latter.

In the early days of industrialism international trade promoted division of labour in every meaning of that term. This, in turn, permitted such a lowering of costs that the standard of life was raised in almost every country in the world. Moreover, international intercourse quickly disseminated everywhere knowledge of new inventions and of new commodities with consequent expansion of trade and production. In a period of rapid change such as that, freedom of trade offered the maximum of opportunity to those wishing to seize it. Any policy except that of unrestricted freedom would have created obstacles.

Conditions are now very different. Modern large-scale rationalised industrial units are exceedingly vulnerable. Unless they can operate at or near the output for which they are designed and find markets at prices covering costs for all they produce they must soon go under or be reconstituted. It is only natural, therefore, that there should be an insistent demand from their managers and shareholders for guarantee of the home market, the only market from which the foreigner can with certainty be excluded, and that Empire Preference should be welcomed by them for the security of whatever overseas trade agreements of this kind are expected to promote.

Again, scientific progress and technological invention which used to lend support to a free trade policy are now among the most powerful of forces encouraging economic nationalism. Standardisation of processes and of output, development of intricate machine tools which can be operated by comparatively unskilled labour after a brief period of training, wide distribution of electrical power and the growth of technical education in every branch of industry enable new factories to be set up with equal prospects of success almost anywhere throughout the world. So, Lancashire finds competitors in India and Japan; and Irish Free State workers come to the Midlands for a few months'

training and return home to operate factories for hollow-ware, gloves, hosiery, and many other commodities in little centres selected at random which never before had an industry of any kind. When industries are thus set up in new environments adaptation of size of unit to the market for the product is possible to a greater degree than in older industrial areas; for imports can be rationed or prohibited and the permitted extent of the industry strictly controlled by the government. It frequently happens, therefore, that such new concerns, unhampered by evil traditions of management or by restrictions imposed by labour, succeed in producing at reasonably low costs per unit within the closed national boundaries. Thus, the policy appears to be justified by its early results, although the situation of industries in isolation from the main centres of their activity is likely at a later stage to create difficulties not easy to surmount. But even if justification on purely economic considerations were not so easy to discover as it is, cogent reasons of a social or political nature can readily be offered for a policy of self-sufficiency in as many industries as possible. Diversification and actual increase, even if small, of employment may well be worth some sacrifice; and in a world overwrought and nervous concerning armaments and the future of peace, the fact that every industry is or may be important for war adds much to the responsibilities of statesmen when they are called upon to outline the appropriate policies in trade and industry for the countries they govern.

Price movements and currency troubles, too, have not been without their influence on this trend in the direction of closed or self-contained economic systems; for it is only within the limits of such a system that even a partial measure of success can be attained in attempts to maintain a stable level of wholesale prices, much less of prices in general. Apart from the detailed control on the monetary side of the volume of credit, the destination of credit, velocity of circulation, volume of saving and investment and so on which need not be touched on here, it is necessary to control the volume of production and of imports as well as many individual prices of goods and services, and the volume of exports if stable price levels are to be secured. Thus, quotas, foreign exchange regulations, occasional prohibitions of certain imports and certain exports are inevitably part of such a scheme of money management. Moreover, the consequences of attempts to keep price levels stable are such as to encourage or provoke further measures of repression in the field of foreign trade; for a stable price level usually conceals several different movements and a

fall in the prices of such commodities as are exported may be accompanied by a rise in the prices of food-stuffs and materials which it is imperative to import, a definite worsening of the terms of trade which stimulates demands for further restriction or control. This was the experience of Sweden when she succeeded in keeping her wholesale price level stable between 1930 and 1934. The other significant example of an experiment of this kind, that in the United States of America, especially between 1925 and 1929 when the general price level was kept stabilised, led ultimately to conditions of monetary inflation. Subsequent events there give little encouragement to those who looked for an end to the policy of self-sufficiency in the continent of North America. The precise relation between monetary troubles and the movement towards economic self-sufficiency—which is cause and which is effect, whether both are due to a third group of fundamental causes, will appear later; but there is no doubt that monetary management of any kind for any purpose calls for increasing control over the course of international trade and that the task of management is easier the more nearly the economic system involved happens to be self-contained.

The movement towards economic self-sufficiency, therefore, has its roots deep in the past. In the political sphere in the nineteenth century nationalism sought for unity and fought oppression to win self-determination. Then, at the beginning of that century and during the latter part of the eighteenth century, economic organisation was simple. Machinery was relatively unimportant and production was on a small scale. By this time, also, economic activity had become increasingly free. The fetters forged by the mediæval guilds and mercantilism had been cast aside. Markets were unrestricted and mobility unimpeded. A domestic capitalist system had been evolved and with it had come political freedom and political democracy. This general scheme of organisation lasted until well on towards the middle of the century without radical change; and contemporary economic theory regarded it as its problem to explain the economic processes of a society dominated by small competing units entirely free from political interference. In the ideal world of these theorists Free Trade was a necessary condition for territorial division of labour. Free movement of capital and unimpeded mobility of population were equally important in their view; and anything which offered obstacles to the attainment of the ideal of a single price in a single market coextensive with the world was, on that account, condemned. But towards

the end of the nineteenth century large aggregates of capital came to dominate the field. It was not that the earlier small competing units of the classical economists had become less numerous but rather that they had become less significant. As industrialisation proceeded the growing scarcity of economic opportunity favoured, even demanded, the consolidation and the integration of trade and industry. As the size of units increased economic opportunity became still more circumscribed and competition grew still more relentless. Under these circumstances legislation and public opinion were powerless to prevent the trend towards monopoly; and the cartel movement spread, at first within national boundaries and, later, it was extended to the international sphere.

Meantime, nationalism, which originally had merely political aims, changed its character and became, fundamentally, an economic movement. This was due, in some part, to the attainment of most of its former ambitions, but mainly to the causes just described and to the continuous expansion of economic activity which now absorbs by far the greater part of the energy of the whole of society. Thus, the world of the first quarter of the twentieth century provided an environment exceptionally favourable to the growth of a very militant movement for economic self-sufficiency.

This long-term influence has been reinforced, temporarily, by the conditions attendant on the great depression. New areas of production have been brought under monopolistic control or centralised supervision in order that governments may be enabled to support trade and industrial organisations in their efforts to regulate production and prices. National cartels have been strengthened and international cartels have been difficult to maintain. Governments everywhere have used the opportunities thus presented to them to turn to narrow national account the general tendency already in force towards large-scale organisation and monopolistic control. It may be that these short-term forces will effect deeper and more permanent changes in the economic system of the world than could ever have been accomplished by the longer-term forces which they supplement.

IV

In designing and improving methods for securing national economic isolation statesmen often appear to act on the assumption that absolute self-sufficiency is an ideal capable of practical realisation. This, assuredly, is not the case. Apart from the

fact that the price which would have to be paid is prohibitive, experience has shown that new devices by new traders can make headway even against the most drastic restrictions yet devised. But at a price which seems reasonable in the short run, or the real burden of which is not immediately apparent, a very considerable degree of economic self-sufficiency can be attained by small as well as by large nations, especially if the measures pursued are in harmony with the long-term forces favouring the trend. Little attention, however, is paid to this proviso when regulations are being drafted; and, even when circumstances are propitious for the success of an attempt at further isolation, disaster often ensues through too vigorous use of double-edged weapons, which, when wielded at all, demand more skill in management than is ever likely to be available.

Much can be learned from a study of the partial closing of markets in European countries to agricultural products from the remaining countries in the world. These older industrial countries aim at developing regulated agricultural production for reasons partly creditable, and partly sinister. German import duties on wheat and rye, for example, may be anything in the neighbourhood of 300 per cent. of the general world market prices. France plans to be, and is in fact, largely self-contained in cereals. Wheat production is encouraged in England by guaranteed prices and by enactments designed to secure that all is sold which is produced. In every European country some or every branch of agriculture receives subsidy or high protection. The consequences of these measures for the newer extra-European agricultural countries are serious. As example, consider the case of New Zealand with

Dominion of New Zealand

Year.	Volume of Production.	Volume of Exports.	Volume of Imports.	Index-number of Export Prices.	Index-number of Import Prices.	Volume of Goods available for Home Consumption.	Aggregate Value of Exports.	Aggregate Value of Imports.
1926	100	100	100	100	100	100	100	100
1927	108	108	96	—	—	102	—	—
1928	117	112	100	—	—	111	—	—
1929	122	116	114	—	—	121	—	—
1930	124	119	106	—	—	118	—	—
1931	117	120	69	—	—	92	—	—
1932	114	132	66	—	—	83	—	—
1933	122	151	66	58	78	82	90	51

Prices are in New Zealand pounds.

exports entirely agricultural and the largest foreign trade per head of population of any country in the world. The story of her troubles is set out in the adjoining table of indices which covers the years of intensification of agricultural self-sufficiency in Europe.

Commenting on this table a New Zealand Government official publication points out "that in the aggregate the volume of production has been well maintained but the outcome of trading operations may be summed up as follows: Between 1928 and 1932 the index figures indicate that the volume of exports increased by 18 per cent. In exchange for the greater quantity of exports, after making provision for payment of interest and other fixed claims, we received in return, for 1932, 34 per cent. less quantity of imports compared with the position in 1928. The net effect of this was that for 1932 the quantity of goods available for consumption in the Dominion was 25 per cent. lower than in 1928. On the same basis the shortage for 1933 was 26 per cent. This was a real loss due principally to (*a*) having to set aside a larger quantity of produce to meet fixed obligations overseas; and (*b*) the fact that the terms of barter in Great Britain have gone against us, with the result that in exchange for a given quantity of primary products we now receive less manufactured goods than formerly—that is to say, the prices of primary goods have fallen more than the prices of manufactured goods." What can New Zealand do if this continues? Nothing, except divert some of her population to new local industries—uneconomic secondary industries is the term employed—and keep out every article she can produce at home.[1]

As a contrast, consider the case of Canada. Like New Zealand's, her total foreign trade per head of population is large. Indeed, she usually comes third in order of magnitude of this item and runs Denmark closely for second place. But, unlike New Zealand, she is an important manufacturing country with much developed mineral wealth, as well as being a producer and large exporter of agricultural commodities. Her industries have been built up with imported capital behind high tariff walls; and she pursued for years what was, in essence, a mild policy of economic self-sufficiency when other new countries were developing in more narrow grooves. Her foreign trade in commodities for 1934 amounted in value to $1,145 million, which was an increase of

[1] The situation in New Zealand has lately improved owing to the rise in the world price of butter from 73*s*. to 94*s*. per cwt. This, however, does not affect the argument. Rather, it emphasises further the consequences of reliance on a single or small number of primary products in general trade.

nearly 25 per cent. on the figure for 1933. It is estimated by the Dominion Bureau of Statistics that Canadians purchased in 1934 some $300 million of foreign securities or of Canadian securities held abroad and that Canadian governments and corporations retired $75 million in bonds owned abroad, while purchases of Canadian securities and investments by foreigners amounted to $355 million. Thus, there was a net export of capital in that year of $20 million which cannot but be regarded as satisfactory, especially as the increases in foreign trade in commodities was due in equal shares to increases in both imports and exports of goods. It is difficult to resist the conclusion that Canada is now reaping the reward of her foresight in developing variety in her economic system instead of continuing a narrower specialisation in the production of primary agricultural commodities. Probably she will continue to enjoy comparative prosperity in a disordered world if she is content with a moderate diversity in her economic life; for the price to be paid for an over-ambitious programme of self-sufficiency is high, especially in a country the main wealth of which consists of primary products and which is, on the whole, still a debtor on balance to the rest of the world. This price is nothing less than a definite lowering in the standard of life of its people.

Equally with other countries exporting agricultural products the United States of America have experienced the special difficulties during the depression in which the fall in the prices of food-stuffs was so much greater than the fall in the prices of manufactured goods. But even before this crisis became acute the foreign trade of that country with Europe was diminishing. Some of the loss, no doubt, can easily be ascribed to other causes (there is no difficulty in finding quite a number); but the main cause was the attempt to initiate and develop self-sufficiency in agriculture by those countries in Western Europe which used to be considerable importers of food-stuffs from the United States. The extent to which the export trade of the latter was shifting before American economic conditions began to change (largely for reasons special to America itself) is well exhibited by a comparison between the year 1913 and the year 1925. During that period there was a reduction in exports of about $100 million (close on 4 per cent. of the total). But those to Europe fell by 20 per cent., those to the rest of North America by 7 per cent., while exports to Asia and to Africa were in each case more than doubled. There was an increase, too (though a less striking one of only 8 per cent.), in exports to South America. The falls in every

case were largely in agricultural products: but the increases that took place were mainly in manufactured articles, although Asia took a little more of food-stuffs. Such changes as these almost certainly have a long-term trend. In any case they are in a different category from those which accompanied the low level of prices in the years immediately subsequent to 1929.

If the great depression had been allowed to run its course in a fully competitive world economic system in which no obstacles were presented to a reasonably free marketing and distribution of commodities, the prices of producers' goods would have fallen more in proportion than the prices of consumers' goods. This would have called into action a number of readjusting forces, and if the experience of previous periods of recovery from depression had been repeated, demand would have revived in such a way that a new position of equilibrium would, in a short time, have been attained. But the course pursued by this depression has differed very markedly from that of any other which the world has yet experienced. Market competition has been much restricted and prices of producers' goods have been maintained or have fallen less than the prices of consumers' goods, with the consequence that there has been an exceptionally serious diminution in the production of all durable goods. Agricultural commodities, the most important group of consumers' goods, suffered the heaviest fall in price of all; and, although there has been a slight increase in consumption in consequence of this great fall in price, demand for food-stuffs is very inelastic and could never have increased to the extent required for a restoration of equilibrium. For such a result a diminution of output is necessary. It was some time before this was realised by the principal agricultural communities producing for export. These have instituted or are instituting restriction schemes which are exceedingly difficult to handle with effect. But the positive measures taken by many countries which are usually importers of food-stuffs to maintain and even to expand their agricultural production create still greater difficulties and lead to the absurd phenomenon of some governments paying bounties for the production of food for the non-production or destruction of which other governments pay equally large compensation.

V

Prior to 1929 the long-term influences which prompted or rendered easy a policy of considerable national self-sufficiency had suffered a check. The movement towards stabilisation of

tariffs and liberalisation of commercial relations between the different nations of the world seemed likely to gather strength; and the excessive nationalism engendered by the War was subsiding slowly. But in the latter part of that year there was a collapse of confidence; and the onset of the great depression created an entirely new situation. Since then short views on international commercial policy have been dominant everywhere.

It is a mistake, however, to conclude that the motives which have prompted measures of restriction in all countries since 1929 have had as their aim the destruction or even the curtailment of international commercial relations. Examination of the discussions in legislatures and study of the trade agreements actually concluded indicate that the principal object of all countries was (and is) to increase the volume of their foreign trade as a whole. But the volume of exports at the current low world prices, especially in the case of primary products, got out of line with the volume of imports. Strict control of the latter, therefore, was imperative if balances of trade (or rather the balances of income and outgo accounts) were not to be upset; for the consequences of this are a drain of gold reserves, depression of value of currency units and threat to the financial solvency of governments.

The course of events can be well illustrated by taking Great Britain as example; but it most be borne in mind that the special conditions of this country do not permit of strictly parallel comparisons elsewhere. The very great fall in gold prices which set in towards the end of 1929, due mainly to the financial collapse in that year in the United States of America, caused heavy curtailment in the foreign demand for British exports. On the other hand, British demand for foreign goods increased because of their new and lower prices. The difference, therefore, between the total value of visible imports and total value of visible exports was greater than before. This would not have mattered much if services rendered to foreigners and interest payments due by foreigners had not shrunk at the same time; for the gap could then have been largely filled by a reduction in the annual amount of new capital invested abroad or, with greater difficulty, by a realisation of part of the foreign securities held by Englishmen which still retained a reasonable value. As a matter of fact the gap was not filled to a sufficient extent in either of these ways. The consequence was an adverse balance in the income and outgo account of foreign trading which was estimated at £104 million in 1931 and £56 million in 1932, and an insistent demand on London for gold. Some gold did leave England, and the Bank

of England took the action which was usual and appropriate when this happened. Money rates, therefore, rose, prices tended to fall, exports were encouraged and imports were discouraged. Further adjustment, however, was necessary; for the situation, though not without precedent in kind, was unparalleled in extent. The fall in prices ought to have been accompanied by a fall in costs which did not take place. It is not necessary here fully to explain why; but it is evident that wages, one of the main elements in cost, cannot easily be reduced, and costing schemes in general are not sufficiently elastic to meet very rapidly changing conditions. When it was realised that this readjustment was not possible the alternative remaining was to prevent gold prices falling still further. This demanded a continuous export of gold as long as world prices went on falling, a policy which would not have steadied prices in Great Britain even if it had been possible to pursue it; for the loss of gold would only have led to still lower price levels at home. When, ultimately, the gold standard had to be abandoned in 1931, the only weapons left were tariffs and the whole apparatus of restrictions under which economic self-sufficiency cloaks its aims. These expedients had already been utilised by other countries when they sought to improve their balances of trade so as to maintain price levels and protect monetary standards. It is probably correct, therefore, to conclude that one of the principal reasons underlying the institution during the past few years of the very great mass of restrictions on international trade is the protection of currencies and the financial solvency of governments. Under normal circumstances a country by imposing tariffs and restrictions on imports can hope to protect its currency from attack and maintain it at or near gold parity without experiencing an intolerable downward pressure on prices; for its limitation of imports is not accompanied by a fall in its exports. The success of this policy, therefore, depends on the extent to which other countries freely admit its goods. If every country simultaneously restricts imports the trade of each is depressed by the tariffs and quotas of the others more than it is stimulated by its own. The object sought, improvement in trade balances, is not attained. Instead, the general effect is contraction in the volume of international trade with increase of unemployment and additional currency difficulties all round.

VI

Much can be learned from a review of the growth of high protective policies and of restrictive nationalism during the years

of the depression. Few countries were without import duties of some kind in 1929. The obvious and immediate step, therefore, when trade balance difficulties were encountered, was to raise those duties so as to guarantee to home producers a larger or more exclusive share of the domestic market, and, in this way, relieve the growing unemployment caused by the fall in prices combined with the constancy of costs. Budgetary difficulties, too, due to reduced public income led to general or flat increases in duties in many countries so that revenue might be maintained; and governments of debtor countries (*e.g.* Australia, Latin America), which were large borrowers on private or public account, finding their burdens increased owing to the decline in prices and their lower returns from exports, were driven to reduce all imports which were not indispensable so that national receipts and national payments might be balanced. Retaliation then followed from countries at the moment less embarrassed; for these were finding their usual export trades hindered by the tariffs and restrictions of those nations which had first experienced difficulties. There were, therefore, further instalments of tariffs in ever-widening circles; and by the latter part of 1931 the export trade of all countries had as a consequence shrunk to a very marked extent.

Meantime, France had revived the quota method of control under which limitations are imposed upon the quantities of particular goods that may be imported over an allotted period of time. Other countries followed, the assumption (or justification) being that quotas are temporary measures of defence designed to limit imports to the quantities which can be absorbed in a period of restricted demand. It is probable, however, that their real attraction was their certainty in result (which is usually greater than can be assured by tariffs) combined with the fact that treaty obligations frequently rendered tariff changes immediately impossible.

At first quotas were fixed permitting supplying countries shares in proportion to their exports during a period preceding restriction. Soon, however, they were turned into weapons with which to bargain for increases in exports. They are now regularly employed by way of threat to extract concessions or counter-advantages from other countries in the shape of reduced duties, release of blocked funds, guaranteed purchases or other commercial privileges. Their use has been extended far beyond the purpose for which they were originally devised. Fortunately they are not popular with traders; for their administration involves much interference with the ordinary routine of business.

In the confusion following the financial difficulties which came to a head in September 1931, when Great Britain abandoned the gold standard and depreciation overtook the currencies of many other important countries, centralised control over the transfer of funds abroad was adopted by nearly all the governments whose monetary systems were then altered in basis and even by some whose currencies still continued to be linked to gold. The original purpose of this control was to prevent speculation and to protect the values of the currency units from the consequences of the withdrawal of funds for deposit or investment abroad. In actual working no difficulties at first were placed in the way of importers obtaining exchange for payment for food, raw materials or other commodities deemed to be essential. But, very soon, governments began to use exchange control as a supplement to other means of restricting imports; and by direct refusal of facilities they were able, more effectively than by tariffs and quotas, to discourage foreign transactions whenever they desired. This power to discriminate led easily to the next step—the granting of preference or priority in exchange on the basis of the country from which the imports were to come. It was argued that favour ought to be shown to those who were good customers and that it was desirable to obtain as near a correspondence as possible in imports and exports with every trading country. Further development soon followed and control over foreign exchange became a bargaining weapon, just like quotas, whereby the threat to withhold or delay payment for imports from, or of debts due to, a given country was used to exact commercial privileges or special trading facilities.

At this stage it became evident that the bargaining power arising from this exchange control of countries whose products were mainly food-stuffs and raw materials was inferior to that of the older manufacturing and commercial countries in Europe; for the latter were creditor countries and the prices of their products had not fallen as much as those of the products of the former. It was natural, therefore, for the financially more powerful countries to require that exchange funds arising out of their purchases should be reserved for the purchase of goods from their subjects and for the remitting of interest on investments held by their citizens. Further, a number of exchange clearing arrangements were set up between these weaker countries and their creditors as well as between the older countries themselves. In these provision was made for the direct balancing of credits derived from all the transactions between the pairs of participating

countries and, occasionally, even for the reciprocal admission of allocated volumes of specified classes of goods on terms akin to barter. This whole episode of exchange control is a curious mixture of repression and restriction of trade combined with ingenious devices for mitigating the damage done by measures which are admittedly short-sighted.

Primarily, quotas and exchange control were means by which a government sought to safeguard its general balance of trade. Their use for this purpose can readily be justified as a defensive measure in the exceptional conditions now prevailing in international trade to-day. It might even be admitted that a country which relies for its livelihood on the export of a few special commodities has the right to safeguard its market for those goods and secure for them reasonable terms of entry to other countries when commercial treaties are being negotiated. But the extension of the principle of general balance of trade which offers a basis of control for the total trade of a country with all foreign countries to the case of import and export trade with every individual external group is a development which cannot but prejudice the future rehabilitation of world trade on any sound or equitable foundation.

This new concept, then, of bilateral trade balancing, this unwarranted extension of an old and useful general guide, is due to the realisation that it is possible, by using quotas and exchange control, to rearrange trade relations with individual foreign countries on what can be a substantially equal barter basis. Such an ideal makes a wide appeal in a period of depression when normal trade outlets are choked; and it is significant that more than one-third of the commercial agreements concluded by European countries, both among themselves and with countries outside Europe, during the past two years have been dominated by the principle that as far as possible in every case imports should approximately balance exports. Now this insistence upon the equalisation of imports and exports between two countries where equality did not exist before is much more likely to scale down the higher of two unequal figures than to raise the lower. The country with the larger volume of exports has almost certainly to reduce its shipments to the volume it imports from the other country, with the consequence that its exporting industries suffer loss, part of which in turn is passed on to the producers of the materials it utilises, whether they be fellow citizens or subjects of another group of foreign countries.

But the case against bilateral trading rests firmly on the

fundamental economic facts upon which every international exchange of goods is built. Differences in climate, in natural resources, skill of peoples, efficiency and standards of life in the different countries of the world determine the type and amount of product which any selected country can export, and at the same time they prescribe the special character of the imports it requires. Inequalities in the amounts passing to and fro between each pair of countries are in the normal course of events. Anything else could scarcely be expected. But these inequalities usually balance off in the aggregate transactions of world trade and finance in consequence of triangular or multilateral movements of services, trade and capital. Moreover, multilateral trade is the means by which younger countries develop their productive resources; for they obtain capital from one group of countries which may not desire to be paid the interest due to them in the form of the borrowers' goods, but, instead, may be willing to receive it in the form of products of a third group of countries which, in turn, find it convenient or imperative to have the commodities that are produced with the aid of the borrowed capital. In this way countries other than the borrowers and lenders share in the increase of wealth that attends the use of the additional capital. The many-sided trade occasioned by transactions of this kind has largely determined present economic structure and the distribution of economic activities among the peoples of the world. Reference has already been made to the fact that the inequalities in trade between all the separate pairs of countries in the world are cancelled and disappear when they are consolidated, and that this process of adding up the sums on each side of the general world balance sheet of international economic relations is accomplished through triangular or many-sided movements of services, trade and capital. It is obvious, therefore, that anything which interferes with the freedom of movement of one of these factors may damage an essential part of a very delicate machine which it may be exceedingly difficult to repair. Unfortunately, the general control and practical cessation of foreign investment in every country is an outstanding example of such interference. But alarmist movements and withdrawals during the depression of short-term funds held abroad by certain creditor nations have wrought even greater havoc; for the countries suffering the withdrawals met them largely by their normal commodity exports to the creditor countries at a considerably reduced level of prices. They then had nothing left with which to buy anything from the countries

which had been the other sharers in the triangular or multilateral trade. Thus a short circuit occurred, cutting out intermediate links in the chain. Even when the withdrawals took the form of exports of gold from the debtor countries the exhaustion of the liquid resources of the latter led to similar results.

If trade had been comparatively free when the change took place in the capital item in the balance, a readjustment would have been possible and the intermediate links could have been restored. The withdrawals (coupled with the cessation of capital exports by the creditor nations which preceded the withdrawals) tended to affect the price levels of the countries involved. This, in the absence of trade restrictions, would of itself have altered the totals of exports and imports, slowed down the pace of the machine, as it were, without stopping it altogether. Freedom to search for new markets would then have speeded it up again in a very short time. But the new trade barriers prevented those rapid adjustments in the quantities of imports and exports which usually occur when there is variation in capital movements; for every country aimed at protecting its own domestic production from the dislocation that might follow a rise in its imports. The consequence was further increases in the gaps between commodity prices in different countries which, in turn, led to additional import restrictions and to general slowing down of trade.

When restrictions are being imposed for the reasons just described, due regard has to be paid to the possibility of retaliatory measures. Therefore, the victims are selected with care. They are invariably the countries in trade with which the restricting country has an excess of imports over exports on consolidated account of goods and services. The effect of this is a reduction of trade balance between the two parties in question and consequent further curtailments of the opportunities for triangular or multilateral trade.

Attempts to gauge the contraction in triangular merchandise trade since 1929 have been made by the Economic Intelligence Service of the League of Nations. The difficulties in the way of accurate estimation are considerable; and much allowance must be made even when guesses are obviously well-founded. Of the general truth of the conclusions there is no doubt. The following table (taken from *Review of World Trade*, 1933), setting out the results of a careful examination of the trading accounts of twenty-two countries which together handle about three-fourths of the international commerce of the world, shows how the percentage

proportion of bilateral trade has increased during the depression at the expense of triangular trade.

	1929.	1931.	1932.	1933.
Bilateral Trade	79·7	81·5	82·5	83·4
Triangular Trade	20·3	18·5	17·5	16·6
	100·0	100·0	100·0	100·0

This tendency is exceedingly serious for countries which have a highly specialised production and which, therefore, are dependent on the sale and export of a small number of commodities. Chile, Greece, Bolivia and certain agricultural countries are examples. It is only because of triangular or multilateral trade that such nations can effect satisfactory balances on income and outgo account; for, frequently, they cannot dispose of enough of their products in the countries from which they borrow in order to offset the payments due from them to these creditors for goods imported and for interest on loans. The pressure exerted on them, then, in consequence of the growth of bilateralism, to increase their exports to countries which do not want their products leads to low prices which, in turn, stimulate further production, so that the total of receipts deemed necessary may not be impaired. It is in this way that the contradiction arises of financial distress accompanied by excess supplies of certain categories of goods which is so marked a feature of the present depression. But it would be a mistake to conclude that bilateral trade treaties can never benefit either or both of the contracting parties. This can happen when the currencies of each are reasonably free from fluctuation, when neither is greatly indebted to the other, especially on short term, when there is mutual confidence in each other's political stability and each has need of the other's specialised products or is willing to purchase them. A possible example is the case of Sweden and Great Britain. Such instances, however, do not controvert the fact that other countries lose more than is gained by the two more fortunate nations. At the best such agreements merely divert trade. They can do nothing to enlarge it.

VII

What are the prospects for the future? Will trade barriers disappear or be modified? Will all these exceptional contrivances for safeguarding trade balances be forgotten when the present emergency passes? It is too soon yet to give an answer to these

questions; but in any case the restoration of comparative freedom in international trade will be slow. Until the most fundamental cause of all restrictions is removed—disparities in the price levels of the same commodities in different countries due to different degrees of currency depreciation—it is unreasonable to anticipate much progress. But at the same time it is well to guard against exaggeration of the extent to which self-sufficiency is actually a conscious deliberate policy of the principal industrial and commercial countries in the world to-day, and to avoid the conclusion that every restrictive measure on imports is actuated by considerations mainly non-economic and national. On the contrary, it would be more correct to assume that the aims of restriction are to enlarge the volume of international trade as a whole, however paradoxical this may seem. It is reasonable, therefore, to expect that barriers will be removed when it is discovered that they hinder rather than foster the attainment of this object.

Some relaxation of the quota system has already been devised. There is a tendency now to use it not to place absolute limits upon the volume of imports but, rather, to set a maximum limit to the quantities of goods to which a lower scale of duties apply, there being reciprocal agreements that imports above this limit shall be admitted on a higher scale of tariffs. This plan is designed to avoid serious disturbance in a given price level within the importing country for each commodity coming under the scheme. It has been embodied in treaties between Austria and Hungary, Roumania and France in reference to wheat, and in several other treaties between countries in central and eastern Europe in reference to other commodities. If there must be prohibitions or restrictions, it is fairly well adapted for the protection of the internal price levels of commodities whose domestic production is considered desirable or in the case of which there are official marketing schemes which have to be nursed with care. This system of tariff quotas as distinct from import quotas would seem, therefore, to offer help to countries engaged in planning internal production in certain products the prices of which it is desired to stabilise without at the same time restricting an import trade which is tending to expand. But the uncertainties and the abuses inherent in all systems of quantitative control are exceptionally great in the administration of any quota scheme. Unless there is a return in practice to the early original purpose of quotas, and governments refrain from using them as special bargaining weapons, the prospects for increasing freedom in international trade are none too bright.

In the treaty of 1860 between France and Great Britain there was embodied for the first time the principle of competitive equality in trade, or the assurance of equal opportunity to all friendly competitors, the principle generally referred to as the most-favoured-nation principle or clause. The example thus set was followed in the majority of trade agreements concluded since that date between the important commercial nations of the world. This led to a considerable extension of freedom of trade; but, occasionally, intensification of economic nationalist movements offered opposition to the simple working of the clause. It is not surprising, therefore, that since 1929 it has been overlooked or has been evaded by the institution of many new types of preferential trade arrangements. To the question, shall the principle be maintained or re-established, or is it to disappear and be no longer embodied in future commercial treaties, a conclusive answer cannot now be given. Reasons, however, can be offered for the view that it will not be abandoned completely but that it is likely to be retained in a modified form to play a part again in the general liberalisation of trade.

Even if some measure of quantitative regulation of international trade survives the depression it is improbable that important industrial countries will consent to abandon the rights they now possess in the way of assurance, which is given them by the most-favoured-nation clause, of equal opportunities for their exporters to supply the imports required by other countries. If they did, their merchants would soon complain, with justice, of unfair and unequal conditions of competition. That importance is still attached to the survival of the principle and that its complete abandonment, therefore, is unlikely appears from the report of the Committee on Tariffs and Commercial Policy of the London Economic Conference of 1933. This Committee suggested modifications that might make its application more elastic and better suited to the changed conditions of trade in 1933. "There was a general opinion," the Committee reports, "in favour of the maintenance of the most-favoured-nation clause in its unconditional and unrestricted form—naturally with the usually recognised exceptions—stressing the points that it represents the basis of all liberal commercial policy; and that any general and substantial reduction of tariffs by the method of bilateral treaties is only possible if the clause is unrestricted, and that this method would avoid the constant resumption of negotiations.

"However, certain delegations manifested a strong tendency in favour of allowing new exceptions in addition to those hitherto

unanimously admitted, on the ground that, although the unconditional and unrestricted most-favoured-nation clause does, under normal conditions, secure for trade the indispensable minimum of guarantees and prevents arbitrary and discriminatory treatment, if insisted on with too great rigidity, it may obstruct its own purposes in a period of crisis and difficulty such as we are now passing through."

An additional exception of importance which, however, has not yet won general acquiescence was suggested by the American delegation to that London Conference and repeated at the Pan-American Conference in the following December. The proposal was that, under certain conditions, the benefit of multilateral pacts for the reduction of trade barriers which are open to adherence by all countries should not be claimed by non-participating countries. The general underlying idea is that if collective agreements are made among groups of countries which are prepared to reduce barriers to trade between themselves, other countries not willing to undertake the same obligations should not benefit by such pacts merely because they have general most-favoured-nation agreements with some of the participants. Rigidity of interpretation of this kind has held up several Danubian pacts which aim at closer economic relations between countries in central and eastern Europe. Perhaps, too, it was responsible for the breakdown of the Ouchy Convention in 1932 between Holland, Belgium and Luxemburg. It will not be easy to get a general informal understanding among nations that they should not press their claims unreasonably and so destroy the chances of success of all collective agreements for the reduction of trade barriers. There are signs, however, that such an understanding is not impossible of attainment. This is fortunate; for on it will depend the future successful working of the most-favoured-nation clause.

The favourable attitude towards the problem of the most-favoured-nation clause on the part of the London Conference Committee on Trade and Commercial Policy was only one of many indications that the delegates on that occasion were ready to recommend a definite reversal of the worst of the restrictions now hindering trade. There could not but be general agreement that the unsettled monetary situation, which called for stabilisation and general adjustment of international financial relations, was the most fundamental of the problems demanding solution and that, failing success here, no useful purpose would be served in proceeding with discussions on the removal of the ordinary

barriers to trade. When, therefore, it became apparent that agreement concerning currency stabilisation was impossible, owing to the reluctance of certain governments to give up the power of control over internal price-levels which they considered currencies unlinked to gold conferred upon them, there was no option left to the representatives of other governments except to decline to enter into either short-term or long-term undertakings concerning trade policy and related questions. But it is important to note that there was a fairly general consensus of opinion that the shrinkage in world commerce was due to a considerable, although an undefined, extent to high tariffs and all the other barriers, such as quotas and exchange control, which had been devised since 1929.

In accordance, then, with this general feeling, in order that there might be a favourable atmosphere for international discussion and for possible concerted action, a customs truce was agreed to, which embraced countries handling fully nine-tenths of the trade of the world. The deliberations of the Committee, as far as they went, indicated agreement, on the part of the responsible representatives of most governments, with liberal views on trade policy and with the opinion that restrictions generally were undesirable. But it is one thing to express adherence to an ideal, and another to make sacrifices in its pursuit; and there is no doubt that the breakdown of the Conference on the monetary problem brought relief to the embarrassed trade delegates of more than one nation. It was demonstrated, however, that it is only through international conferences of this kind that progress can be looked for in the straightening out of the present tangle of barriers to trade.

The failure of the Conference led to immediate denunciations of the tariff truce and to a temporary reaction in favour of additional restrictive measures. Further meetings for discussions on trade policy ought not to be convened until currencies are reconstituted upon firm and permanent foundations; for mutual suspicions that trade concessions may be undermined by currency manipulation create an unfavourable atmosphere for fruitful deliberation.

While the prospects for general international agreement to scale down tariffs and remove other barriers do not offer hope for early action, regional agreements carefully chosen as starting-points may indicate the path to continuously widening areas of comparative freedom of trade. Reference has already been made to the proposed Danubian pacts and to the Ouchy Convention

of 1932 which failed through the insistence of the stronger nations on their rights under the most-favoured-nation clause. Where, however, important and influential nations are concerned which can command the acquiescence of weaker nations in less rigid interpretations of this principle of competitive equality much progress is possible. Perhaps the Ottawa agreements of 1932 in which Great Britain, her colonies and self-governing dominions all participated are a case in point. But if these Ottawa pacts illustrate the possibility of a wide extension of areas enjoying comparatively unimpeded trade they also clearly indicate the underlying conditions necessary for success. There is no need, here, to review the results of the Ottawa Conference and assess its value to the mother country and to the dependencies. But it would not be easy to refute the criticism that this series of trade agreements between the several parts of the British Empire have been trade-diverting rather than trade-enlarging in their effects. Moreover, they demand sacrifices on the part of some of the participants which in the long run may prove to be intolerable.

Certain historical analogies are instructive. Nineteenth-century Europe offers examples of several movements in which a number of small contiguous independent countries formed a customs union, within which trade was largely free, and so built up an economic unit better balanced than any of the constituents singly could ever hope to be. The German States in 1830 came together in this way and abolished tariffs over a wide area in central Europe where, previously, there had been more than a score of States large and small. Unfortunately such movements are never wholly, perhaps not even principally, economic; for they have their roots deep in national sentiment. Economic union, therefore, has been followed by political union, just as the establishment of a powerful consolidated homogeneous kingdom in France followed the abolition of provincial tariffs there in the eighteenth century. It is the feeling or suspicion that there is this tendency for political union to follow customs agreements among neighbouring states with similar cultural institutions which inspires opposition to the proposed Danubian pacts and other trade conventions in central and eastern Europe. It may be that the tendency does not work in the reverse direction and that the growing independence of units which have hitherto been in close political union is shown in their determination to assert themselves in the economic sphere. It may also be the case that it is felt that a measure of economic independence or self-sufficiency is necessary for the proper enjoyment of the newly granted political

independence. Whichever is true, the attainment of real economic unity in the British Empire will not be an easy task.

VIII

It will now be abundantly clear that the short-term influences making for economic self-sufficiency draw much of their inspiration and derive most of their impetus from instability of currencies and the unforeseen and violent movements of prices which always accompany unstable standards of value. The first and most pressing problem, therefore, is that of currency stabilisation; for on its solution depend not only the disappearance of those novel and harmful restrictions on international trade already examined, but also, which is much more important, full economic recovery everywhere throughout the world. That must be the excuse, if one were needed, for a glance at some of the considerations bearing on the choice of policy to be pursued in connection with this general question of currency reconstitution.

It will be remembered that the principal cause of the failure of the World Economic Conference of 1933 was the realisation that it was not then possible to secure agreement even among the more important nations, much less the general consent of representatives of all the countries present, on a programme of currency stabilisation. Much has happened since then, and more than one nation has discovered how to contrive a more even balance on income and outgo account through the medium of a currency freed from gold which can be manipulated so as to ward off awkward price movements at home and the immediate need for internal economic readjustment. It is probable, therefore, that if another world conference were to meet now, general agreement concerning action would not be any easier to obtain than it was two years ago. This, however, ought not to interfere with joint or single action on the part of some of the financially stronger nations whose lead the weaker would necessarily have to follow. Indeed, the latter, during a period of international monetary chaos like the present, can indulge without much hurt to themselves or the rest of the world in experiments aimed at self-sufficiency and permit fluctuations in the external values of their currencies without serious repercussions elsewhere. But the fluctuations of the rates of foreign exchange in the large and influential financial centres are very damaging to international exchange and it is a mistake to assume that such movements necessarily produce equilibrium. Experience here reinforces theory in demonstrating that the

contrary is almost certainly true and that they cause more dislocation than they cure. It is evident that it is only by an international monetary standard of some kind permitting of stability in foreign exchange rates that the temporary excesses in the trend towards economic self-sufficiency can be cured and prosperity restored.

If this be granted and if agreement in the re-establishment of an international standard is not to be looked for immediately, the case for single-handed action by Great Britain is considerably strengthened. We have most of any country to lose by a permanent shrinkage in international trade, and the position of London as a leading world centre of finance carries with it much prestige and considerable responsibility, a fact as important in matters political as it is in matters economic. The question, then, can be put very simply, although it is not equally easy to supply an answer. Which is to be the policy of this country if and when it decides to give a lead to the rest of the world—stabilisation on gold or stabilisation on sterling as a paper pound?

The latter makes a more cogent appeal to thoroughgoing economic nationalists than the former. For this there are many reasons. Reference has already been made to the most important —the greater control over its domestic economy which is possessed by a government whose monetary system is not intimately linked to a general international standard in the way demanded by a general foundation of gold. Of less significance are the difficulties which would ensue from the correction of the present maldistribution of gold. These, it is felt, would involve retreat from positions of self-sufficiency which have not yet been consolidated and which, if lost, could only be recovered in a future crisis or depression. Further, it is pointed out that important countries, including Great Britain, have for some time worked an exchange system without the use of gold and that the experience gained demonstrates the possibility of avoiding all the difficulties which accompany the working of the gold standard, especially those due to variation over long periods in new supplies of the metal and the occasional maldistribution of general stocks which, it is asserted, can never be effectively avoided. It is only by stabilisation on a sterling paper basis, therefore, the argument continues, that Great Britain (and the world) can escape another economic crisis in the course of time.

The case against stabilisation on a paper basis rests primarily on prudence and expediency. The insulation from external economic influences so desired by the nationalists is a dangerous

privilege for which a very high price has invariably to be paid. Further, monetary management on a paper standard demands constant vigilance, a continuity of policy and a trust in the moderation of governments which few people are willing to concede. Most important of all is the fact that the world is not yet ready to abandon an international standard based on gold. The problem, therefore, is not whether to return to gold, but when, and on what terms.

To the question " when " the answer at first sight appears to be definitive—not until there is a general state of equilibrium between the price levels of the important commercial countries of the world. As long as sterling is undervalued as regards the currencies still on gold and uncertain, probably overvalued, as regards the dollar, stabilisation is undesirable. It would merely repeat the disastrous consequences of the mistake of 1925. But here there is a vicious circle. It is uncertainty with regard to the futures of currencies and, predominantly, of sterling which is the main cause of the lack of harmony between foreign exchange rates and the price relationships of the leading countries. Until there is assurance concerning the future gold basis of sterling equilibrium between price levels is unlikely to ensue merely as a consequence of market fluctuations in rates of exchange. Rather than rely, therefore, on price levels, which are so much the playthings of doubts, alarms and apprehensions, to bring exchange rates into harmony with one another it would appear the better course partly to reverse the process, stabilise sterling on a gold basis tentatively, and by maintenance of steady sterling exchange rates look forward to internal prices elsewhere adjusting themselves to the new situation thus created. There is little to be gained by waiting on further developments before initiating such a plan. On the contrary, delay is adding to the difficulties that will be encountered whenever stabilisation on any basis is ultimately attempted; for the present downward trend in sterling creates trouble for countries financially weaker than Great Britain, encourages competitive currency depreciation and further curtails the volume and value of international trade.

If the case for early stabilisation, then, be granted, the implementing of the policy calls for a very careful, gradual and tentative approach. Anything in the way of a full and immediate restoration of the gold standard is impracticable; but the preliminary steps required should not present serious difficulties. It is not proposed now to enter upon a detailed examination of those steps or of the further steps involved, and the degree of co-operation

which may be needed from the central banks of the United States of America and the leading gold countries in Europe. Neither is it necessary to discuss the part which might conceivably be played by that recent addition to the machinery of the London Money Market, the Exchange Equalisation Account, in consolidating and maintaining the new situation when a *de facto* becomes a *de jure* stabilisation. It is sufficient to register the conclusion that until this task is performed there will be continued encouragement to ill-timed attempts to attain and maintain economic self-sufficiency, to the detriment of full recovery in international trade throughout the world.

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THE FINANCIAL AND ECONOMIC RESULTS OF STATE CONTROL IN AGRICULTURE [1]

THE changing practices, derived from scientific progress, observable in post-war British agriculture, have upon recent occasions been described and discussed by this Section of the Association. It seems, therefore, not inappropriate now to draw attention to some other aspects of the industry which can claim to be fundamental in any appraisement of our rural complex and have also special relevance when we meet in such a centre as Norwich. I refer in particular to its financial and social economy as well as, more generally, to its present-day bearing upon other human activities, all of which have, as a direct result of State action, suffered great changes. And here, may I explain that in the title of this address the term " Control " has designedly been substituted for the arguably more correct " Intervention " or the defensible " Assistance," for none can aver that the policies and activities of those engaged in primary production are now as spontaneous and untrammelled as they would be had not successive Administrations, in order to counter exigencies of varying magnitude, visited agriculture, as Zeus visited Danäe, in " a shower of gold "—I borrow the simile of a well-known politician.

Before attempting to estimate the results accruing from the policy each represents, I propose to enumerate, and, as far as possible, to assess the total cost to the State of the various reliefs and disbursements of an eleemosynary character that these post-war years have witnessed. I do not apologise for this, as I feel confident that a large majority even of the agricultural community does not appreciate the weight or the diversity of these aids.

First must be placed the direct, recurrent and non-recurrent grants. Chronologically, in the forefront of the former comes the Corn Production Acts (Repeal) Act, which, in 1921, resulted in the payment of over eighteen million pounds to the growers of wheat and oats in Great Britain. By this means some three-quarters of all the occupiers of agricultural land received £3 and £4 per acre respectively, or an average of about £80 per head, for the crops in question raised that year. Additionally, a further million pounds was deflected to the furtherance of rural education and research.

[1] Extracted from the Presidential Address to Section M of the British Association, Norwich, 1935.

The subsidising of sugar and molasses derived from home-grown beet—nowadays a much-discussed product—will, with the perfectly legitimate inclusion of the concurrent Excise remissions, during the eleven years of its existence have cost the taxpayer slightly over £47,000,000. At this stage, I will say nothing in regard to the proportionate distribution of that vast sum between farmer and factory, nor will I comment upon the very debatable economic repercussions affecting sugar refiners, foreign cane and beet producers, British shipping interests, or home road and rail services. The benefits derived from the introduction of this crop into our farming economy have been undeniably great, but the spectacle of two hemispheres subsidised to compete for an over-stocked market is a remarkable one.

The redemption of a solemn war-time undertaking to settle ex-Service applicants upon small-holdings caused the expenditure, through the medium of the County Councils, of £15,250,000. The precise cost to the State of establishing the 17,000 persons in question is extraordinarily difficult to assess, but I am indebted to friends at the Ministry of Agriculture for the following information. Some nine-tenths of the sum was advanced by the Public Works Loan Commissioners, and the high rate of interest on post-war borrowings, coupled with an excessive cost of equipment, accounts for the resultant excess of annual expenditure over annual income. This long-term commitment will, by the final year, 2003, have aggregated some £40,000,000. As the Ministry is in reality paying interest, but not the charges upon the loan, the overall average annual deficiency payment will be £565,000, equivalent to £34 for each small-holder. At the present time the charge is some £800,000 per annum—in 1950 it will be £700,000. The weight of such protracted liabilities, both from the national and the personal aspect, is apt to be overlooked, and, remembering the economic hardships to be faced, it is perhaps fortunate that less than half the would-be settlers waited for land.

The Forestry Commission will, under two separate programmes, have expended in fifteen years just under £6,000,000. This is, in effect, a variant form of long-term subvention that will shortly begin to yield substantial returns as the Commission's properties become commercially remunerative.

The cattle and milk subsidies officially represent in part contingent liabilities which are to form claims upon any levies that may hereafter be collected upon imported meat and upon the future resources of the Milk Marketing Board. Even, however, if we accept as certain such repayments, there remain non-returnable State contributions, amounting in the year

1934–35 to £1,600,000, designed to improve the quality of milk, to provide for its sale at reduced rates to schools, and to assist in the production of manufactured grades. During twelve months ending last June, £2,924,000 had been spent on the beef subsidy, which now averages £330,000 a month.

The various post-war measures by which credit has been made more freely available to the industry have caused what would, in normal times, have been regarded as heavy expenditure. Under the Agricultural Credits Act of 1928, a State subscription of £10,000 per annum was guaranteed to the Agricultural Mortgage Corporation, and this piece of legislation, together with the previous Trade Facilities Act, has led to the granting of loans exceeding a million in amount.

While it was implicit in the Wheat (Quota) Act that no expense should fall upon the Exchequer, the corollary of an enhanced price for British wheat now calls for annual payments exceeding £7,000,000, and it is clear that the "deficiency payments" themselves have, up to now, been worth to the producer somewhat in excess of £4 per acre of wheat. If the whole charge is deflected to the wheat-eater—which it is claimed is demonstrably not the case—the extra expenditure per household must be in the neighbourhood of 15*s.* per annum, or, say, 3½*d.* per week.

It is with the greatest diffidence and hesitation that I countenance the possibility of combining under one head these recurrent or terminally fixed payments, for they vary so greatly in their characteristics and in the relative exactitude with which they can be assessed, but I may hazard the suggestion that, to the *taxpayer*, their gross weight, exclusive, of course, of the "wheat deficiency payments," has during the last fifteen years exceeded £90,000,000, or an average of £6,000,000 per annum—say, 5*s.* for every acre of crops and grass in England and Wales: a very disproportionate share has, however, rightly been deflected to the arable districts. As will be indicated shortly, the actual sums expended in recent years, due to the incidence of meat and milk grants and the expansion in beet acreage, have been twice, or even two and a half times, this over-all average.

Next come the annual State disbursements of ever-widening range, made through the medium of official and semi-official bodies, that represent an aggregate sum which would, in pre-war years, have elicited astonishment. Owing to the number of different heads under which the relevant votes fall, it is extremely difficult to determine the total sum thus expended, but at the present time it clearly exceeds £2,500,000 per annum, and ranges from capital grants for building extensions to the establishment

of teaching posts and the provision of a complete system of agricultural scholarships, while, too, whether directed to the Outer Isles of Scotland or to the English countryside, it ameliorates the life of the peasant.

The addition of the last-mentioned item will, in such a year as the last, bring the grand total of current *payments*—again exclusive of "wheat deficiency grants"—to over £15,500,000 per annum, which large sum it must, however, be admitted, represents barely 2 per cent. of the nation's Budget. In 1913–14 the amount corresponding to the above-mentioned £2,500,000 was £900,000, which, like it, was expended through the Board of Agriculture, the Scottish Department of Agriculture, and the Development Commission. Drawn from a Budgetary expenditure of less than £200,000,000, this figure is not only widely disparate to that recorded above, but, fantastically, apart from the de-rating contribution, it represented the then total national outlay upon the industry.

In view of the fact that grants-in-aid may, from the standpoint of recipients, be very different from that of the taxpayer, it will naturally be asked what proportion of the above financial assistance has reached those actually engaged in farming operations. The answer would appear to be as follows. The whole of the wheat and oats subsidy of 1921 was received by cultivators, as are now the "deficiency payments" under the Wheat Quota Act, which, with scarcely any loss, balance the "quota" charges on flour. The sugar-beet subvention presents an extremely difficult problem, which the Greene Committee of Inquiry avoided answering beyond saying that, in 1934–35, its *cost* was equal to £17 an acre. While boldly venturing into this controversial field, I should perhaps first refer to the suggestion, sometimes made, that, with an average net cost of production—always extremely elusive to determine—of some £13 or £14 per acre and cash receipts of £19 per acre (on a beet price of £2 per ton), the factories would, in the event of the subsidy being withdrawn, increase their contribution to the price from £2 to £4 per acre and that, therefore, the gross value of this assistance can be reckoned as high as £15 per acre. A second possible method of evaluation rests upon the assumption that the difference between the cost of production and the average return of £19 represents the subsidy's value. Such a differential would be some £5 or £6 per acre (including the value of by-products), which, of course, excludes any advantage derived by the worker owing to enhanced wages. Yet another theory, strongly Protectionist in character, insists that, in effect, the home producer is not being subsidised at all until his rates of

benefit exceed those provided for his most favoured Imperial competitors; this basis would give a value of £6 per acre. To me it seems plausible to hazard the suggestion that, despite various difficulties associated with rates of exchange, the fairest method is to attempt to locate the difference between the average of world beet prices and of those ruling domestically. I arrive thus at a present-day world value of 25*s.* per ton, compared with 40*s.* for the internal price, which gives a difference of 15*s.*, or, with a yield of 9·5 tons, of £7 per acre. This, then, is the figure I propose to use in connection with certain tabular statements that follow. Incidentally, all the methods enumerated above, except the first, give results that correspond closely with the widely spread empirical belief that one-third of the gross State expenditure has reached the farmer and his employees.

It is obvious that, in the case of beef, the 5*s.* per live cwt., or average sum of approximately £2 10*s.* per beast, represents a clear addition to the impossibly low prices that would otherwise have been secured; the failure to occur of an anticipated rise in prices led, incorrectly, to the claim that middlemen had absorbed these grants. Admittedly, the consumer is paying more for his milk, and the distributor is enjoying no smaller margin, while in this trade the producer can point to a guaranteed outlet rather than to substantially enhanced prices as the principal result. Sums devoted to afforestation, the provision of small-holdings, and, to a certain extent, sugar-beet, have percolated to many grades of cultivators—actual or potential—but a small proportion has doubtless remained with owners, who find land values improved thereby, while certain ancillary trades, *e.g.* transport and building construction, have been provided with augmented outlets. Few of the grants have failed to provide additional employment or at least to prevent diminution in the numbers of wage-earners.

When one turns to investigate the truly remarkable reliefs from the "burdens"—both statutory and non-statutory—which have been implemented during the last ten or twelve years, one finds tax-, rate- and tithe-payer all affected. By the Agricultural Rates Act of 1923, which halved the contribution of agricultural land (already, under the provisions of the 1896 Act, reduced by 50 per cent.), the Exchequer thereafter handed over to the local authorities of Great Britain an annual sum exceeding £3,800,000; this, of course, was in addition to the £1,320,000 per annum falling due under the Act of 1896. In 1925 the derating of agricultural buildings necessitated a further contribution, amounting to £700,000 per annum. In 1928 the remaining quarter of

local taxation falling upon land, representing £4,132,000, was remitted. The occupiers of agricultural land and buildings in England and Wales alone have, by these means, been relieved of payments which would, in recent years, prior to the readjustment of the Block Grant system, have amounted to about £16,000,000 per annum, equivalent to an average of 12*s*. per acre; rather more than half (£9,000,000) of this sum must have come from the pockets of the taxpayer, the bulk of the remainder being charged upon non-agricultural ratepayers. It may be recorded that this relief represents some £40 per "average" holding, or £50 per occupier per annum. Similar remissions and reliefs have been accorded in Ireland, where, in the case of the Free State, it has been calculated that payments from farmers have been reduced by £2,000,000 per annum; in Scotland £800,000 has been remitted to landlords and £150,000 to tenants.

Even taking into consideration the recent slight fall in the poundage of local rates, it is true to say that, in the aggregate, reliefs from rating must, in Great Britain, represent some £15,000,000 per annum. Whatever theory may postulate, or particular interests suggest, there is now no evidence, any more than was the case on previous occasions, that, as rates were remitted, agricultural rents rose, so the full concessions have been enjoyed by their intended beneficiaries.

Rightly classified as a "productive industry" under the general derating scheme, agriculture secured yet a further concession, assessed at £800,000 per annum, in the shape of preferential rates for rail transport applicable to certain types of produce.

Finally, in approaching the vexed and even hazardous topic of tithe, all interests will perhaps allow me to state that, by the legislation of 1918 and 1925, landowners have been relieved of payments which, had this charge been permitted to pursue the course dictated by the then existing legislation, would up to date have involved them in an additional contribution of £11,000,000. As the whole subject is, as it were *sub judice*, I will only throw out the suggestion that, had some form of sliding scale, indicative of variations in the purchasing power of money, been retained in the last Act, the difficulties experienced by both owners and payers might have been much reduced. The "pegging" of tithe has, of course, relieved only those farmers falling within the category of owner-occupiers.

Having now enumerated the principal *ad hoc* payments and remissions secured by British agriculture, and attempted to indicate their ultimate distribution as well as their cost to the nation, it is only reasonable that I should refer to certain factors,

State-dictated, that figure upon the other side of the rural balance-sheet. The first of these was the re-establishment of the statutory Wages Boards, which, by raising rates of remuneration above the level existing prior to 1924 (under the voluntary system of Conciliation Committees) to the extent of slightly over 6*s.* per week, have caused an addition of £10,250,000 to the annual cost of labour in England and Wales (itself representing one-third of all outgoings), which in turn is equivalent to some 8*s.* per acre over-all and may, in the arable districts, easily exceed 12*s.* per acre. Real wages, due to a steady fall in the cost of living, synchronously advanced. Secondly, our, as it proved to be, premature return to the Gold Standard in 1925, by raising the value of the sovereign some 5 per cent., also, for a period, militated to the extent of another 10*s.* per acre against the farmers' returns; it is fair, however, to point out that in its incidence it was not peculiar to the industry under discussion.

Ignoring for the moment any consideration of the financial advantages derived from import duties or from the avowedly price-raising quantitative control of home-produced and imported commodities, it is now possible to strike a general balance based on the principal, and still effective, of all the foregoing items in their reaction upon the *producer*. At levels current now or in 1934–35, it reads, for Great Britain, approximately as follows:

	Credit.	*Debit.*
Wheat "deficiency payments" .	£7,180,000 [1]	
Sugar-beet subsidy (calculated at £7 per acre)	£2,820,000 [2]	
Meat subsidy	£3,300,000 [3]	
Milk grants	£1,600,000 [4]	
Small-holdings and allotments .	£900,000	
Afforestation	£450,000	
Ministry of Agriculture, Scottish Department and Development Commission	£2,500,000	
Local taxation reliefs . .	£15,000,000	
Wages Boards		£10,250,000
Net Gain	£23,500,000	

[1] Cereal year ending September 1934 (official estimate for 1934–35 = £6,865,000).

[2] Year ending March 1935.

[3] Calculated for year ending September 1935: future commitments estimated at £4,000,000 per annum.

[4] Year ending March 1935: exclusive of returnable advances.

In reviewing these figures, it must be remembered that the official index-number applicable to agricultural commodities produced at home now stands at only some few points above the 1911–13 parity, while, with labour costing double what it did in 1914, and the price of many requisites increased by 50–70 per cent., the weighted average cost of production lies in the region of 50 per cent. above the 1911–13 level. The margin to be bridged, therefore, exceeds several times over the credit balance revealed above, which, in round figures, may be taken as equivalent to some 15*s*. an acre.

It will perhaps be appropriate if I also illustrate by local example, derived from such a typical arable area as Norfolk, the results of State assistance. This is the soil which, in ancient times, according to that great Norwich medico-antiquary, Sir Thomas Browne, protected certain "minor monuments from the drums and tramplings of three conquests." It has subsequently had to endure a similar number of economic assaults upon its own productivity. Here, in 1934, the 990,000 acres of farmed land derived, in round figures, the following major pecuniary advantages: wheat "deficiency payments" (calculated on the Wheat Commission's official basis of 3*s*. 11·074*d*. per cwt.), £436,000, or £3 15*s*. for every acre grown; rating reliefs (at 13*s*. in the pound on agricultural land and buildings), £650,000; the sugar-beet subsidy brought into the county some £1,617,000, of which, dare I say, utilising my previous basis of £7 per acre, £666,000, therefore, reached the producer? The meat subsidy, together with the grants directed towards education, small-holdings, afforestation, and so forth, must have amounted to at least £200,000, or 4*s*. per acre. We arrive, then, at a total of £1,952,000, or, say, £2 for every acre in agricultural utilisation. From this must be deducted £596,000, or 12*s*. per acre, as a result of the increased rates of remuneration ordained by the Wages Board, leaving a nett gain of £1 8*s*. It is a curious coincidence that sugar-beet benefits and wage increments should so nearly cancel one another out, for it has been repeatedly claimed by East Anglian farmers that the former were entirely absorbed by the imposed higher cost of labour.

When it is borne in mind that the over-all per-acre value of our soil products is barely £8, and that it may cost £7 10*s*. to raise an acre of wheat, £4 10*s*. in the case of seeds hay, and £30 in that of potatoes, the advantages derived are, if not striking, at least appreciable. Statistically, the resultant changes in Norfolk agriculture are not unexpected. Wheat is now back to its pre-

war acreage, while (regulated) potatoes and the fruit areas have increased; the other, and unsubsidised, cereals have declined, while sugar-beet has largely supplanted turnips and mangolds. Milch cattle are more than 50 per cent. above their pre-war numbers, the sheep population is only two-thirds of what it was, but pigs, beneficiaries under the new régime, have practically doubled. The arable land has not been reduced disproportionately to the national loss attributable to the demands of a more mobile and discriminating urban population. It is probable that increased mechanisation, as much as financially dictated staff reductions, has been responsible for the withdrawal of some two thousand whole-time male employees during these fourteen post-war years.

Norfolk may, indeed, be taken as illustrative of the recent post-war tendencies exhibited by the country as a whole, and frequently unappreciated by the man in the (urban) street. They are as follows: a slight increase in the physical output of the soil, a decline in arable area, which would undoubtedly have been much larger but for the grants-in-aid directed to specific crops; a marked transference from the production of feeding-stuffs to that of sale crops; a reduction in the number of workers, accompanied by a greater output per person employed; and a redistribution between the different classes of live-stock, which still account for three-quarters of the total agricultural output expressed in terms of money. Nationally, there has occurred a very marked augmentation in the consumption of Imperial as opposed to non-Imperial supplies, together with an increase in the *per caput* consumption of the more expensive foods.

Of the expenditure which has brought about these results, landowners have, directly, received little, and their position has, owing to permanently enhanced costs of maintenance and repairs, continued to deteriorate. Tenant-farmers have, by it, been enabled partly to bridge the gap that would otherwise have rendered them impotent to function as producers. The economic betterment of rural workers can best be measured by recording that their weekly wages now stand at some 75 per cent. above the pre-war level, while the cost of living index-number remains in the region of 40. Remembering the immovable attitude of the administration, and also the public apathy of forty to fifty years ago, and knowing the terrible situation that faced their predecessors yet a century earlier, the present representatives of what is justly one of the most famous agricultural counties in England, must surely feel encouraged by these tangible signs of

support to continue their efforts to escape from the darkness of depression into the light of returning prosperity.

Let us now leave the subject of direct financial impacts and benefits, resultant upon State action, to be weighed according to individual opinion, and consider the repercussions attributable to higher policy which involve economic and fiscal adjustments often extraneous in character. The precursors of marketing reform on the grand scale emerged in the shape of the Horticultural Produce Act of 1926 and the "Rings" Act of 1927 (both of which attempted to strengthen the position of the farmer in regard to the sale of his produce), extension of the C.O.D. system, and the setting up of the "National Mark"—all these supplemented the Empire Marketing Board's policy of concentration upon the business functions of the producer. The cost of that Board during its short life (at first a million per annum, subsequently reduced to half that figure) was small compared with the incipient value of its work, which clearly paved the way for the far more ambitious operations of the Agricultural Marketing Acts. By the latter legislation our internal policy was completely altered, and over-riding powers were conferred upon proved majorities to transfer, withhold, process, or otherwise dispose of, "regulated products" in order to control output, with the economic *suggestio falsi* that, if fully successful, such a price-raising system would merely readjust profit margins between farmers and intermediaries without raising prices to consumers. When, however, it became apparent that unrestricted supplies from overseas were effectively paralysing the original (1931) Marketing Act, its successor was passed which gave to the Board of Trade full powers quantitatively to control imports of any agricultural commodities already subject to the provisions of the former Act.

The delicate "gentlemen's" (but not necessarily economists') agreements, soon sought with the Scandinavian group of countries, and with certain South American producers, in the hope that their exports might be cut down to the required figures—generally expressed as percentages (*circa* 60–90) of some basic year or average of years—were not always easy to conclude. Trade agreements or Ottawa pledges will have prevented, in the case of certain articles—*e.g.* milk, meat and dairy produce—the introduction until this, or even the next, winter of such undertakings with some foreign countries and with several of our own Dominions and Dependencies. With import duties also imposed, in 1932, upon a majority of agricultural and horticultural com-

modities, including one on foreign wheat at 2*s*. per 480 lb., and 10 per cent. *ad valorem* on foreign flour, our Free Trade principles, zealously guarded since 1846, were jettisoned and "the people's food" was taxed indeed.

It is extremely difficult to estimate in terms of money the net results of a "planned" agriculture at home, combined with reduced non-Imperial imports, but, during the second reading of the 1933 Marketing Act, the Minister of Agriculture claimed that, as a result of past policy, "We shall be able to show that we have secured a rise of 20–30 per cent. in wholesale prices without a rise of more than 1 or 2 per cent. in retail prices." On the other hand, the Ministry's official *Agricultural Statistics*, 1933, Part II, p. 99, reads as follows: "In the first six months of 1933 the monthly numbers were between 11 and 15 points lower than the year before. Later, however, there was a recovery, and in the last quarter of the year the index was 7 points or more higher than in the corresponding months of the previous year, while a margin of 6 to 7 points was maintained throughout the first quarter of 1934." The figures in question, of course, refer to commodities sold off farms (estimated at £222,000,000 in 1932–33) and are, therefore, wholesale. During the last year they have averaged some 7 to 8 per cent. above the level of 1932 and 1933. This, for Great Britain, is equivalent to an aggregate rise of £15,000,000 to £17,000,000 in producers' receipts as compared with Mr. Elliot's implied rise of £44,000,000 to £66,000,000. If we feel justified in ascribing the whole of the officially recorded increase to the influence of the Marketing Acts and their supplementary legislation, this is the sum that must be added to the grand total (£23,500,000) of subsidies and reliefs previously enumerated, for the new policy is supplementary to the old—based upon long-term grants—which of course continues side by side with it. We thus arrive at a figure approaching £40,000,000 as representing the cumulative annual benefits derived from the three policies, viz. grants, remissions and augmented prices. The new method is far more potent than the old, and, although it is arguable to what extent, if any, middlemen's returns have been affected, it concerns most intimately the consumer. The direct taxpayer, it should be emphasised, has thereby gained a measure of respite at the expense of the indirect.

Including these price- and quantitative control devices, the home market is now in possession of an almost complete battery of economic weapons. So far, that is to say during the last three years, the result has been seen in this relatively small rise in the

(wholesale) price of its products, accompanied by a considerable increase in the proportions of Empire, at the expense of foreign consignments. This has been accomplished at the cost of a growing dependence upon outside direction and some expansion in the numbers of persons ancillary to the industry. Forms to be completed, contracts to be signed, instructions to be obeyed, inspections to be suffered—these are the penalties of a planned and a regimented industry.

In the case of potatoes, some hundreds of transgressors were last spring summoned to appear before the management of their Board on charges of failing to make returns of stocks, for selling products below the size fixed by the regulations, or for rendering inaccurate acreage returns; fines up to £20 were inflicted. The demand for potatoes as human food is, to a certain degree, elastic, and the Boards have it in their power, by withdrawing small varieties, to raise the price of those in other categories; acreage restrictions should then prevent any tendency to over-production. So far, potato prices, whilst not soaring, have substantiated economic theory, while heavy duties on imported "earlies" have buttressed the whole structure.

The milk industry has perforce become accustomed to receiving, through eleven "pools," payments calculated in pence per gallon to two places of decimals, and varying with the status of the producer, the season, the locality, and the intended utilisation of individual consignments; many producers and a larger proportion of consumers remain in ignorance of the destination and of the source respectively of a commodity whose production and handling are vital to health. Significantly, no provisions for limiting output have at present been imposed, and the Board's energies have mainly been devoted to increasing the consumption of fresh milk at the expense of that unremuneratively disposed of for manufacturing purposes; the average price secured by producers rose last year by about a penny a gallon, but has since declined by perhaps a halfpenny.

Producers responded too well when first invited to contract for the supply of high-grade bacon pigs, and, if prices were to be maintained, limitation of supplies was essential. When faced with markedly higher retail prices consumers became restive, there was evidence that demand was shifting to alternative commodities, and simultaneously the European exporter expressed open dissatisfaction with his reduced opportunities. In these circumstances, the change of policy announced last June and July met with complete agrarian approval. Levies raised on

foreign bacon are now to be used to maintain, or to augment, the price of pigs at home and, incidentally, a tariff on imported beef will in due course operate in a similar manner. It thus looks certain that the movement of these substantial economic straws indicates a general change in direction of the political or administrative winds.

Certain branches of the industry, such as those associated with fruit and vegetable production, have rejected regulating schemes, preferring, presumably, to trust, in conjunction with specially granted fiscal protection, to those insular advantages that they possess.

British agriculturists, having witnessed for long the evils of neglect and *laissez-faire*, would have been foolish to refuse, at any rate for a time, this form of assistance on the ground that it involved certain sacrifices on their own part, and, when looking around at other occupations, including those of their fellows in many different countries, were wise to accept compulsory co-operation. For, as with armaments, so with industry, it appears unfortunately at the moment to be the accepted rule, *si vis pacem bellum para*—if the primary producer wants enhanced prices and thereafter stability, he must seek both by outbidding, in tariffs, subsidies and exchange restrictions, the aims of foreign countries. Agriculture will assuredly be the last industry spontaneously to support the reintroduction of Free Trade.

Such a policy represents, however, a complete break with tradition and with outlook in regard to social as well as to economic matters, and it has been accomplished at first by comparatively heavy financial commitments, in turn to be succeeded by the adoption of a "planned economy" that has called for readjustment in the respective interests of consumers, distributors, overseas producers and even of other industries, some of which latter are themselves unsheltered from the blasts of world competition. This "emergency" programme, as it was first termed, has been carried through at the cost of a reduction in the initiative and freedom of producers, by a certain transference from "dirty boot" farming to the filling of forms, by a progressive dependence upon outside authority, and, psychologically, by the growth of what may tend to become a defeatist attitude. Yet, the appeal *non tali auxilio* has yet to issue in any volume from the lips of rural spokesmen. Up to the change of policy in 1932, the direct cost—even if we include those long-term commitments —had, by post-war standards, not been excessive, but the nation, or, rather, the urban population, has now acquiesced in a policy which more and more affects not merely the producer and the

taxpayer but every householder in the land, so that, latterly, a price-raising objective has had to sustain criticism and inquiry from a far wider field.

I have refrained from discussing certain factors axiomatic to the new system, such as its effects upon our secondary industries hitherto engaged in exchanging their products for imported food-stuffs; the future trade and financial relationships likely to subsist between ourselves, our own Dominions and foreign countries, as a result of the restrictions imposed; and the political and economic risks attaching to any serious increase in the cost of urban living brought about by a virtually monopolistic and dominant rural hegemony. Upon these questions, that are of overwhelming importance and pregnant with danger, each must form his own conclusions. Fundamentally, too, the farmer whose production costs are high now secures recognition that formerly was the reward of his more efficient brethren. Nor can it be denied that this system of regulated production will, as a concomitant to increased profits for those permitted to remain, logically necessitate the exercise of restraint upon every soil product, including those essential to health, raised upon each commercial unit of land, which in turn must bring under review the determination of rent as well as (now) profits and wages. Even if justified on economic grounds, such a procedure would be open to attacks based on other, and wider, considerations, very difficult to counter. Technically, a quota system has inherent disadvantages which render its stability uncertain and necessitate frequent revisions and adjustments to neutralise fluctuations in different sources of supply and in prices. Home producers prefer import duties to restriction, and we in this country must not forget that the latter method presents to our own kith and kin overseas a virtually insoluble problem in the shape of consequential control of their own individual producers. It is therefore certain that the latest proposals, initiating a movement from quotas to levies, with a modicum of Dominion preference, will meet with approval from both parties. During the last two or three years we have travelled farther than in the whole of the previous century, and, perhaps kindly, "the iniquity of oblivion has scattered her poppy," for we are in danger of forgetting to what an extent our rural and national economy has been transformed by official recognition of some of the above-mentioned paradoxes.

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THE PARETO LAW AND THE DISTRIBUTION OF INCOME

THE distribution of the national income of a country has always been an important and fascinating problem for economists. Thirty-nine years ago Pareto stated in his *Cours d' Économie politique* that there is a simple law which governs the distribution of income in all countries and at all times. Subsequently, it is true, he restated his law with somewhat less precision, but still he believed that the law holds good within certain ranges of income. The object of this paper is to examine the validity of this law of frequency on the same lines that Pareto followed for some countries. A detailed analysis was made of the income and super-tax statistics of India over a series of years in order to discover whether the law is of the nature of a mathematical or physical law, true for all countries and at all times, or whether it is of the nature of an empirical formula which is useful within limits in certain directions, or whether there is no law at all.

I

It is necessary in the first place to state the law as enunciated by Pareto himself if only because it is often incompletely and even incorrectly stated. Briefly, the so-called law in its most dogmatic form is that if N represents all the number of assessees at or above a certain income limit x per annum and α and A are constants, then

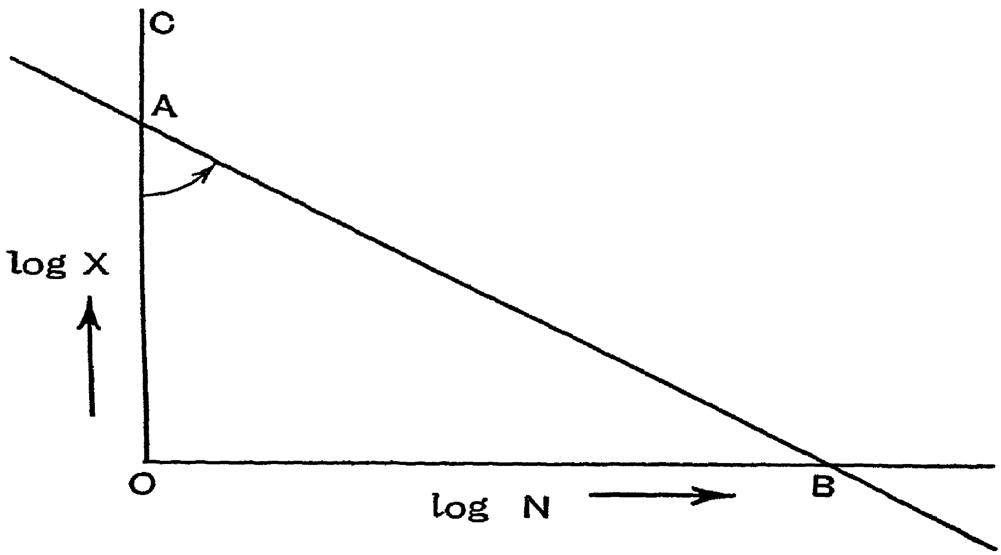
$$N = \frac{A}{x^{\alpha}},\ [1]$$

and, therefore, $\log N = \log A - \alpha \log X$. In other words, if the logarithms of the number of persons in receipt of incomes at and above definite amounts are plotted against the logarithms of the amount of these incomes, the points so obtained will be on a straight line whose slope with the axis on which the values of

[1] This relation in which N is cumulative from the higher towards the lower incomes is *usually* given as Pareto's Law. *Vide* pp. 346–47 of the *Elements of Statistics* (Fourth Edition), by A. L. Bowley (London, P. S. King & Son, 1920). The non-cumulative distribution is given by $-\frac{dN}{dx} = y = +\frac{A\alpha}{x^{\alpha+1}} = +\frac{B}{x^{\beta}}$ (y being the number of income-tax payers at income limit x) and is of the same form as the cumulative distribution.

log x are given will be α (strictly $-\alpha$). By using the double logarithmic scale it is possible to plot both small and large incomes and the receivers of those incomes on a single sheet of paper. In the figure below the vertical axis gives the logarithms of income limits and the horizontal axis the logarithms of the number of people: α is the tangent of the angle OAB made by the line with the log X axis.

Pareto examined the statistics of incomes in some countries and concluded that the inclination of the line with the log x axis did not generally differ from 56 degrees by more than 3 or 4 degrees or the arithmetical value of the slope with the log x axis differed but little from 1·5. Sir Josiah Stamp, working on recent data,



gives 1·6 or 1·7 as the usual value of α. If the law were true it would mean that the greater the value of α, the less the inequality of the distribution of national income, and the less the value of α, the greater the inequality of distribution. If everyone had the same income x a line perpendicular to the log x axis will represent the distribution of incomes. Pareto, as already noted, at first asserted that the law was true of every country and at all times and he made two deductions: (1) that the shape of the curve of income distribution on a double log scale was not only the same in the income tax or upper range of incomes, but in the whole range of incomes; (2) owing to the rigidity of this distribution there is only one way to increase economic welfare, and that is by increasing production. There is no possibility of increasing the share of the poorer classes in the national income except in this way. In Pareto's view welfare must grow more rapidly than population if a country's minimum income is to be raised

or the inequality of incomes diminished. "The problem of improving the condition of the poorer classes is before everything else a problem of the production of wealth."[1] The converse proposition is also held to be true: "We may say generally that the increase of wealth relatively to population will produce either an increase in the minimum income, or a diminution of the inequality of incomes, or both these effects in combination."[2] In short, the income of the poorer classes in a country cannot be increased unless there is simultaneous increase in the income among all classes of the population.

Lastly, it is to be noted that Pareto, in drawing his lines from the data which he had at his disposal, used the method of least squares. Since the actual data has to follow the line $\log N = \log A - \alpha \log x$ as nearly as possible, the deviation of the data points from the line must be a minimum. The line of least squares is accordingly used. Pareto fitted up his lines by this method and therefore they came to be regarded as Pareto lines. It might be argued that empirical lines drawn so as to fit in points in the middle interval along the line are better than the least square lines, particularly when the central part is approximately linear as in the English statistics. In this inquiry I started by drawing empirical lines for the all India figures and for the provincial figures, but as most of the points near the middle interval were far from being linear and as a number of empirical lines could be selected in such circumstances, it was found impossible to fit in the data in this manner. Since the least square lines are mathematically the lines which will give the closest fit to the data and as Pareto himself fitted up the data by this method I have used the least square lines. There is indeed special merit in drawing the least square lines when other lines cannot be drawn, as in the case of the Indian statistics and when Pareto himself had used this method in establishing the correctness of his law.

II

Before proceeding to the detailed analysis of Indian income and super-tax returns it will be convenient to make one or two general criticisms of the so-called law which Pareto derived from an examination of income statistics of some countries in Europe. He stated, as we have seen, that the value of the slope of income distribution for all countries and at all times differed but little

[1] *Cours d'économie politique* (Lausanne, 2 vols., 1896–97), p. 408: quoted by Pigou.

[2] *Ibid.*, p. 324: quoted by Pigou.

from 1·5. Nevertheless, this index of distribution varied on Pareto's own showing from 1·24 (Basle, 1887) to 1·89 (Prussia, 1852). Pareto observed, too, that the slope of the curve in the case of Prussia varied with the lapse of time. Pareto's own data, therefore, do not justify his assertion in 1896 that the slope was almost constant. Ten years after the publication of his *Cours* he published his *Manuale d'economia politica*,[1] and although still speaking of the law as true within certain limits he became less dogmatic in his statement of the law. " Some persons would deduce from it a general law as to the only way in which the inequality of incomes can be diminished. But such a conclusion far transcends anything that can be derived from the premises. Empirical laws, like those with which we are here concerned, have little or no value outside the limits for which they were found experimentally to be true." [2] Thus in his later work he gave up the idea that existing distribution was inevitable and he was doubtful whether that portion of the curve below the income tax limit was of necessity similar for all countries and all times. The Pareto law cannot be extended to incomes below the tax exemption limit. The extension of logarithmic straight line would give the absurd conclusion of an infinite number of persons having incomes just above the zero amount. The maximum number of incomes is well above the zero amount and is finite, and beyond this income limit the number of incomes declines in successive intervals indefinitely. Pareto himself had realised this. Again, income tax data are merely the last part of the data of the income distribution in any country and, as such, are merely the tail-ends of a frequency curve. The tail-ends of most frequency curves are generally asymptotic, and therefore it would not be very surprising if the range of taxable incomes (which is the highest range in income distribution) becomes linear, if indeed it at all does. It would be, therefore, hazardous to draw conclusions as to the nature of the complete income curve from the mere tail-end. One who is accustomed to use graphs drawn on a natural scale might be inclined, at first blush, to say that the data points follow " the straight line law," but when the double logarithmic scale is used, as is done by Pareto in plotting income tax returns, data of the incomes of large size subject to income tax and super tax and data of the number of income receivers are greatly compressed. In interpreting double logarithmic scales a very different standard as regards conformity must be insisted on than is appropriate to the interpretation of natural scale graphs where

[1] Milan, 1906. [2] *Op. cit.*, p. 391.

bumps or curvatures are easily seen. This fact is very important, because if it is not a real "straight line law" it cannot be used as a test for finding evasion or the reverse, over-assessment. Moreover, it is common knowledge that economic conditions in different countries vary very considerably and there is no reason why income distribution should be similar for all countries. The income distribution of India, which is predominantly an agricultural country, is bound to be different from that of England, which is industrial. Changes in the distribution of income also take place in the same country from time to time. The impact of external forces such as war and the great increase in public expenditure, especially on the social services, have altered the distribution of income.

Sir Josiah Stamp, in his *Wealth and Taxable Capacity*,[1] recalls an interesting fact which had best be described in his own words: "In 1913, when the super-tax statistics were first published, following upon the introduction of that tax, they gave us for the first time an official statement about total incomes over a certain range. I was eager to apply the Pareto rule or formula that I had seen used for other countries to know how it compared with other figures. I annoyed my colleagues at the Revenue in charge of this administration very much by telling them that they had 'missed' over 1,000 payers in the lowest class, £5,000 to £10,000, and they thought I should be much more usefully employed in telling them who they were. However, they promptly went and found them, and now you will find that the £5,000 fraternity 'toe' the Pareto line nicely. As a matter of fact, you frequently find that the Pareto test with any such set of income statistics drops off a little at the bottom. When I got to the £5,000 point, I thought it ought to have been on the line, but it was not. So, on the theory that in fact it really was there, I gave the number of missing incomes." We have no record of such an experiment being repeated by Sir Josiah Stamp or by any other statistician elsewhere in the world. It is not clear whether the analysis was made by the method of least squares, as Pareto did, but Stamp seems to consider the law useful as a formula for interpolation and for finding evasions. It appears that Stamp would have found the persons evading income tax between £5,000 and £10,000 not because the so-called law was applicable to statistics of income, but to the fact that in the particular distribution of super-tax or sur-tax incomes analysed by him, it happened that almost all the points except the one corresponding

[1] P. 82.

to £5,000–£10,000 lay on a line. It was, therefore, only natural to conclude that the point should fall in with the rest of the points, and if it did not, there was something wrong with it. Stamp further states that "The Pareto index is not a perfect measure of distribution, but it is simple and serves for this purpose. We have had from 1842 till recent years a classified tabulation of assessments on profits and salaries to which I have applied this test and found no evidence of any permanent material shifting in the proportions. We have also had at various intervals classification of house values—for example, the houses of £50 in rental value increased in thirty years in about the same proportion as the population, and those of £80 rather less. Although the rich have become richer in one sense, I have not been able to find clear signs of increasing concentration of the total wealth in their hands." Stamp seems to believe that the law, quite apart from its being mathematically true for describing income distribution in a country, serves a useful purpose for interpolation and for finding evasions. It will, therefore, be necessary to examine the Indian data in detail to ascertain whether the law is at all applicable.

III

A detailed inquiry (which has taken some years to complete) was undertaken into Indian income and super-tax statistics in co-operation with the Mathematics Department of this College.[1] The income tax statistics for the years 1913–14 to 1917–18 and from 1923–24 to 1929–30 for British India and for each of the nine provinces of India for the years 1928–29 and 1929–30 were examined. Super-tax data from 1923–24 to 1929–30 were also examined. British India has a developed system of income tax and the results obtained, covering a large population, are perhaps of special interest. The income tax data fall into two periods, that from 1913–14 to 1917–18, roughly the war period, and the period 1923–24 to 1929–30, the years when in efficiency the Income Tax Department was immensely strengthened. The Pareto lines were fitted to the data by the method of least squares. In the first period, 1913–14 to 1917–18, none of the points corresponding to the data lie on the Pareto line. Two of the lowest points lie below the line; three middle points above the line and the highest two points below the line. The second period can be conveniently

[1] I am indebted to Prof. S. M. Shah and other members of the Mathematics Staff, especially to Mr. D. M. Patel, B.Sc. (London), A.R.C.S., Lecturer in Mathematics, for his invaluable assistance in the preparation of the statistics.

divided into two groups, 1923–24 to 1926–27, and 1927–28 to 1929–30. In the former group there are six income intervals as compared with seven intervals in the period 1913–14 to 1917–18. The difference is due to a raising of the income tax limit from Rs. 1,000 to Rs. 2,000. In the period 1927–28 to 1929–30 there are no fewer than fourteen income intervals.

The general characteristics of the period 1927–28 to 1929–30, the most important period, because of its having the largest number of intervals and therefore of the number of observations or points on the curve, are as follows :—The four lowest points are below the Pareto line, the middle seven above the line, and the highest three below the line, except for 1927–28, where there are six points in the middle interval in place of seven as in other years and four in the highest interval instead of three. The characteristic to be deduced from this fact is that the points fall not erratically about the Pareto line, but arrange themselves into groups or sets about the line which makes the distribution of income something different from a linear distribution and is strongly suggestive of the fact that the Pareto line obtained is not in any sense the mathematical law of the data. This will be clear from the following graph for the year 1929–30. The graphs for the other years in this group are similar.

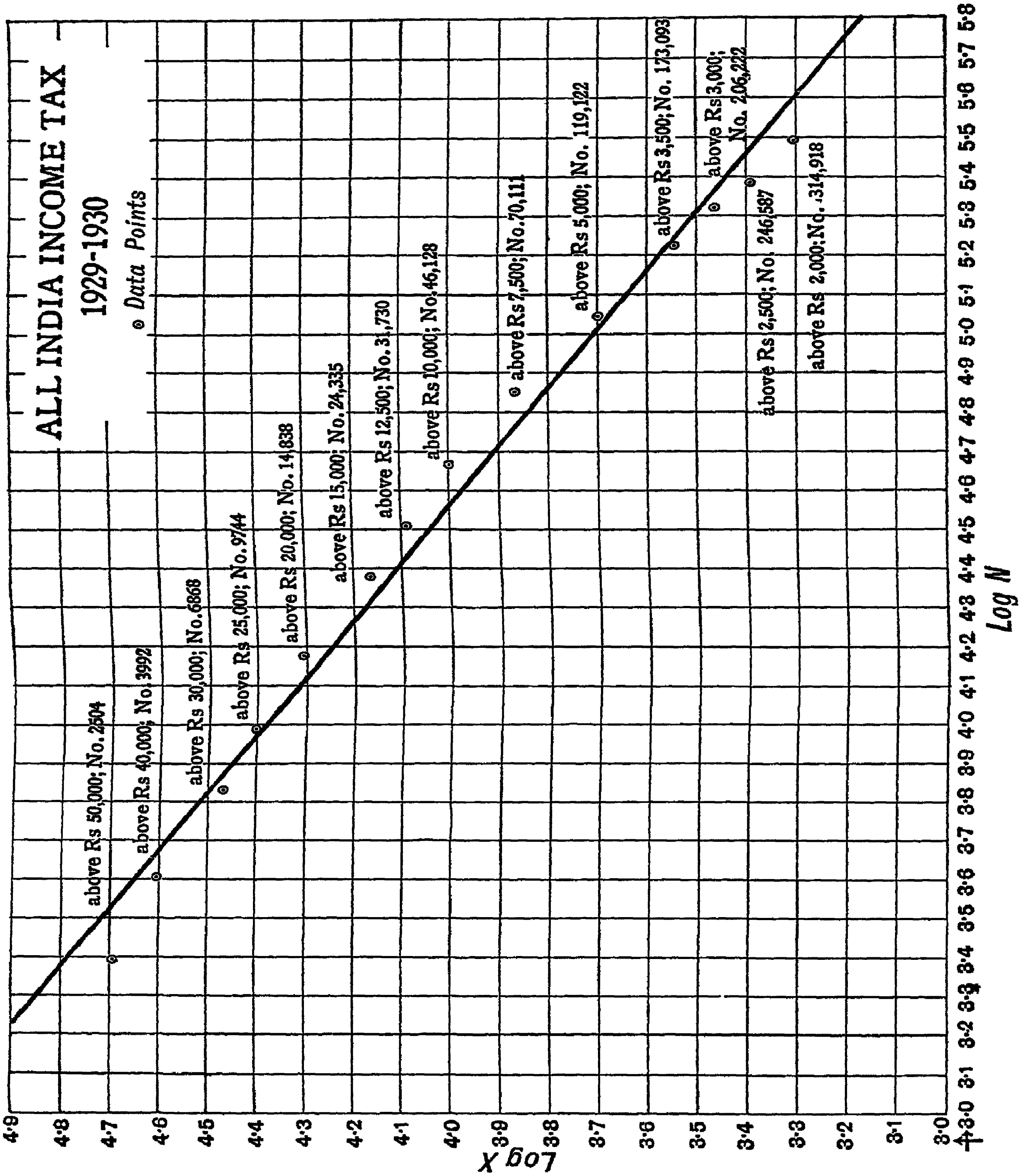
It will be clearly seen from the graph that the points do not at all lie on the Pareto line, even allowing for the compression of the data on a double logarithmic scale, already referred to. In fact, the curve on which the points lie seems to be definitely parabolic, as Bowley has pointed out.[1] The middle portion of the data is not linear and is concave towards both axes. The distribution thus does not follow the so-called Pareto law, as it is not even remotely linear and the middle points cannot be fitted up by any empirical line.

The distribution of the points in the period 1913–14 to 1917–18 is similar to the distributions given in Graph I.

If this graph (Graph II) is examined along with Graph I it will be seen that the points corresponding to the various income intervals in Graph II align themselves exactly in the same way as they do in the first graph. For example, the point corresponding to Rs. 2,000 in both graphs is almost in the same position, viz. below the line; also the points corresponding to Rs. 5,000, Rs. 10,000, Rs. 20,000 are in both graphs in a similar position. The points corresponding to Rs. 30,000 and Rs. 40,000 are also situated below the line in both cases. If the distribution

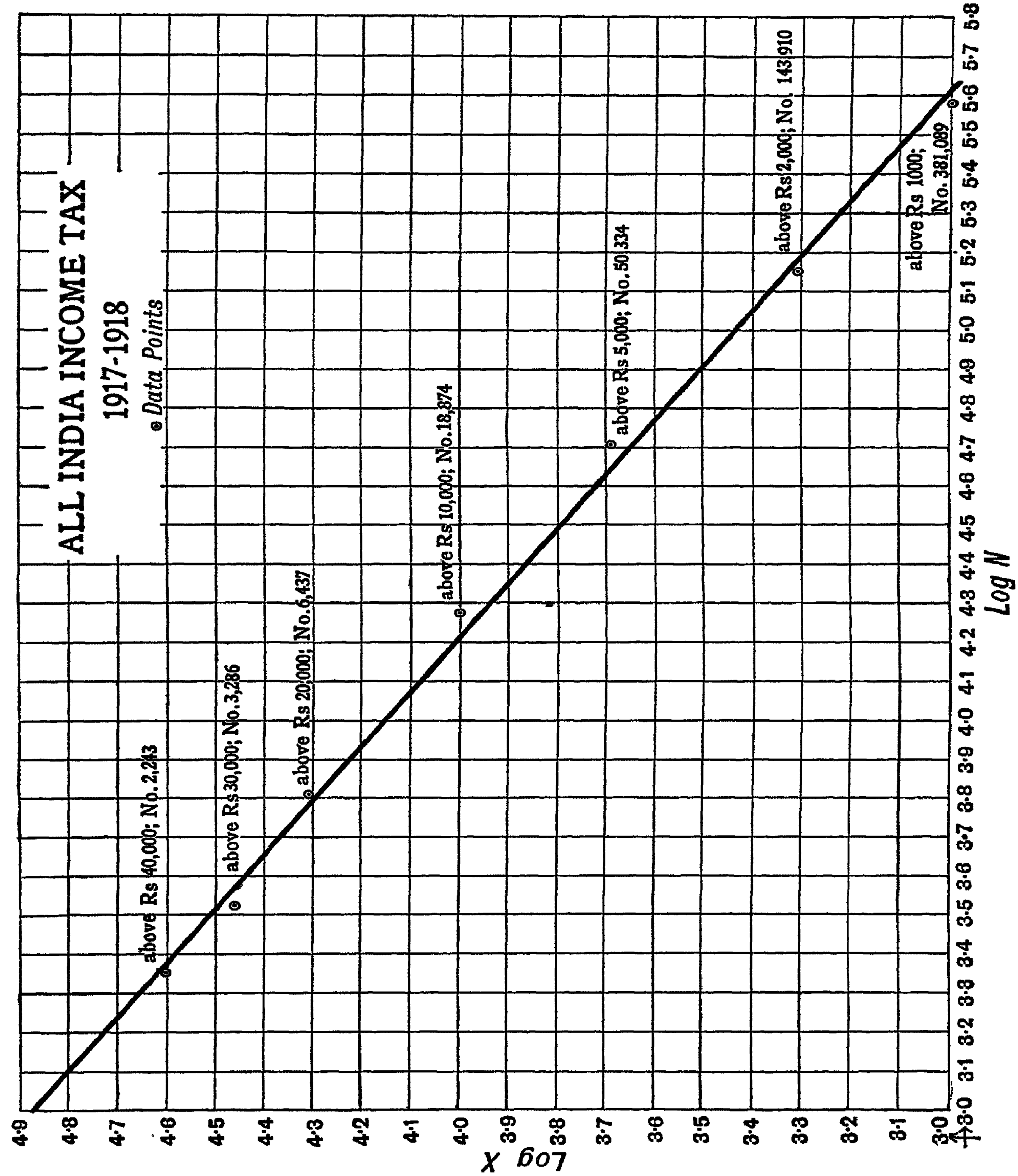
[1] It is of the form $(a \log x + b \log N)^2 + 2g \log x + 2f \log N + C = 0$.

in Graph I is parabolic, then the distribution in Graph II is also parabolic, although at first sight it might appear to be linear. It must also be noted that in the graph for 1917–18 there are



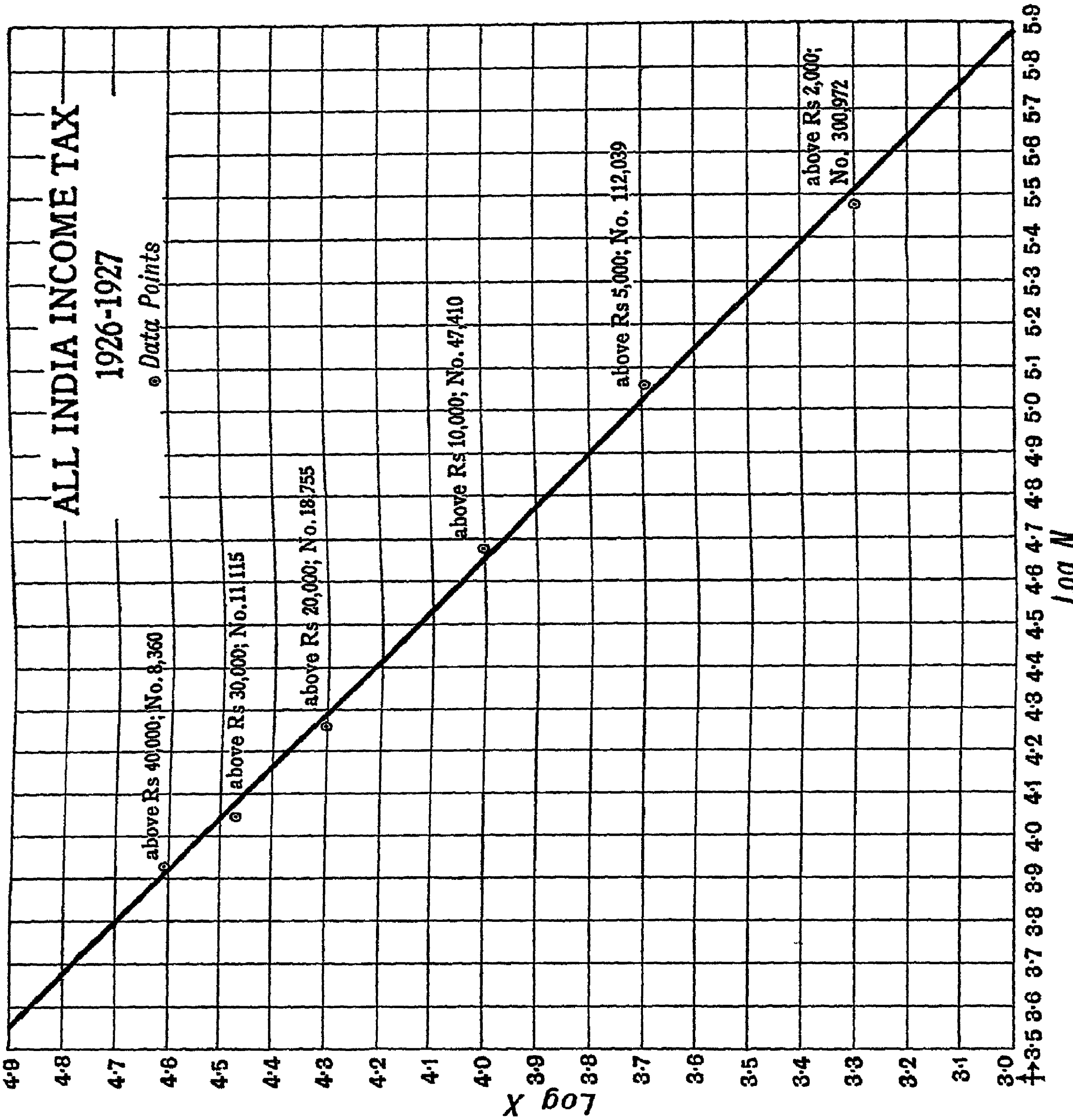
only half the number of income intervals or points, and this is apt to lead to an inaccurate idea of the distribution in 1917–18 if it is not seen along with a distribution in which there are more observations. Both graphs must be examined together. In

Graph II, if one were to draw an empirical line instead of a least square line, a line could be drawn passing through the interval Rs. 5,000 to Rs. 20,000 where there are only three points in the



middle interval. Can three points alone be taken as an index of the distribution of income as a whole, particularly when in Graph I there is a distribution in which there are a greater number of points in the middle interval and we know that these points

cannot be fitted by an empirical line? Graph II, therefore, is similar to Graph I, and the agreement of the points with the Pareto line is merely superficial. This will be better seen from Appendix I, where evasions are calculated assuming Pareto's law as true.



Graph III for 1926–27 has only six points. The distribution of five of these points is, it will be seen, similar to the distribution in Graphs I and II, and therefore if the distribution in Graph I is not linear and that in Graph II is not linear, the distribution in Graph III is also not linear, although approximately at first sight it looks linear. This conclusion is also strengthened by the

analysis of the data with respect to evasions which are dealt with below. The final conclusion is that the points in all these graphs do not lie on a straight line and the deviations of the points from the line are too great to account for any inaccuracy of the data, as will be seen from the impossible evasion and over-taxation calculated in Appendix I, particularly for the period 1927–28 to 1929–30. It is interesting to note that these results with regard to India are not dissimilar from those obtained by the National Bureau of Economic Research in the United States in regard to American Federal Income tax for the years 1914–1919. In this latter inquiry it was found that the Pareto lines which were fitted up by the method of least squares to the cumulative distribution of the income tax returns did not fit in with the data. It was found in the American data that the lowest points were below the line, the points in the middle interval above the line and those in the highest interval below the line again. The points thus did not flutter about the Pareto line but formed sets or bunches which cut the line at small angles.[1]

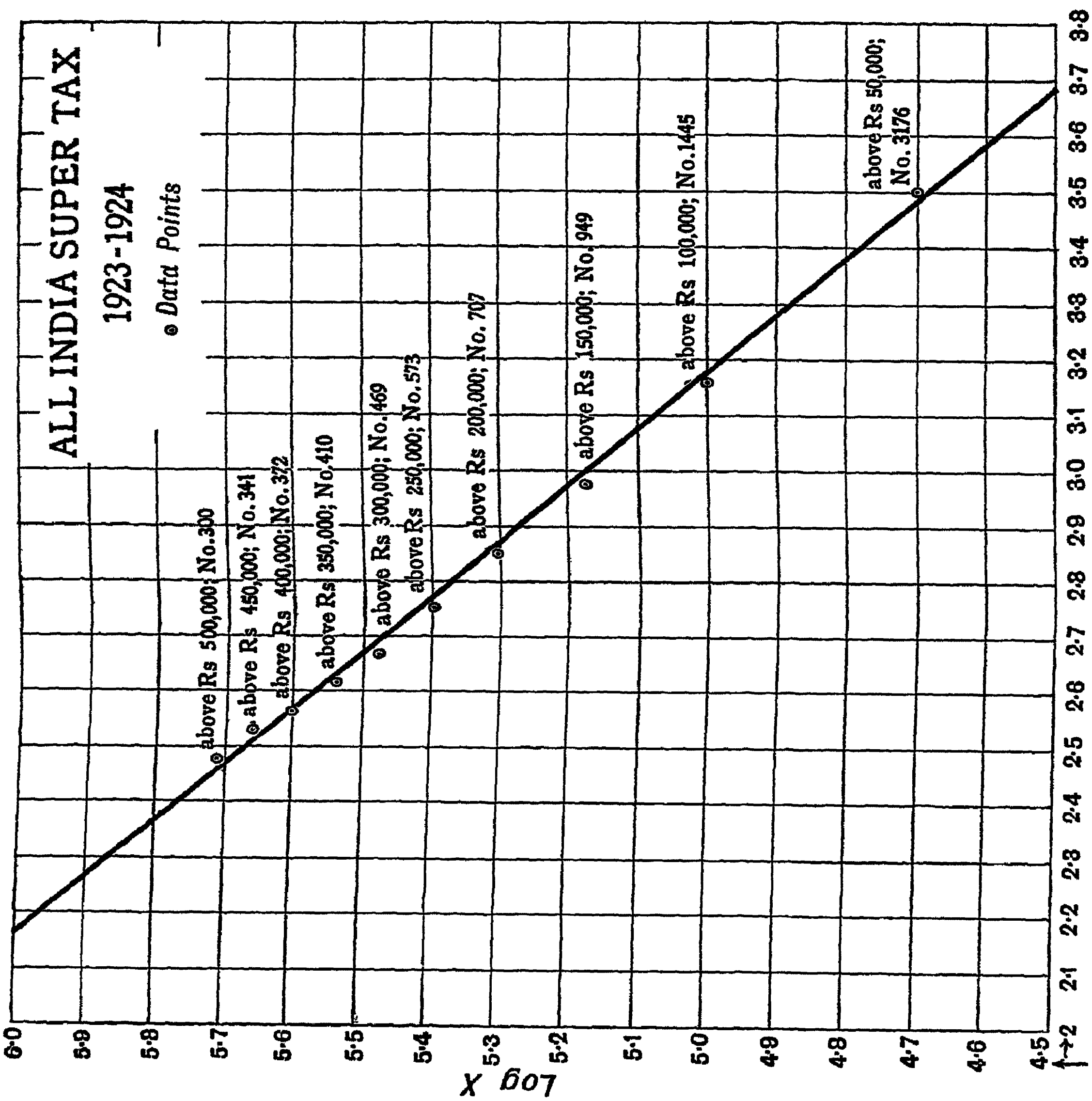
The super-tax data for the years 1923–24 to 1929–30 were also examined and the distribution of super-tax incomes plotted and fitted up by the Pareto lines. Super-tax statistics in most countries are more complete than those of income tax and there is less room for evasion. If, therefore, the Pareto law held good, most of the points would lie on the Pareto line, but, as will be seen from the sample Graphs IV and V below, this is not the case.

The lowest points are above the line, the middle interval points are below the line, and the points in the highest interval are above the line. At first sight it would appear as if the super-tax distribution followed the Pareto line closely. But this is merely superficial when one remembers that (1) this is the final end of the income distribution curve; (2) the data are much compressed in a double logarithmic scale, and (3) the evasions calculated in Appendix II are impossibly high.

The graphs for the provincial income tax data for the years 1928–29 and 1929–30 were also plotted and the curves drawn.

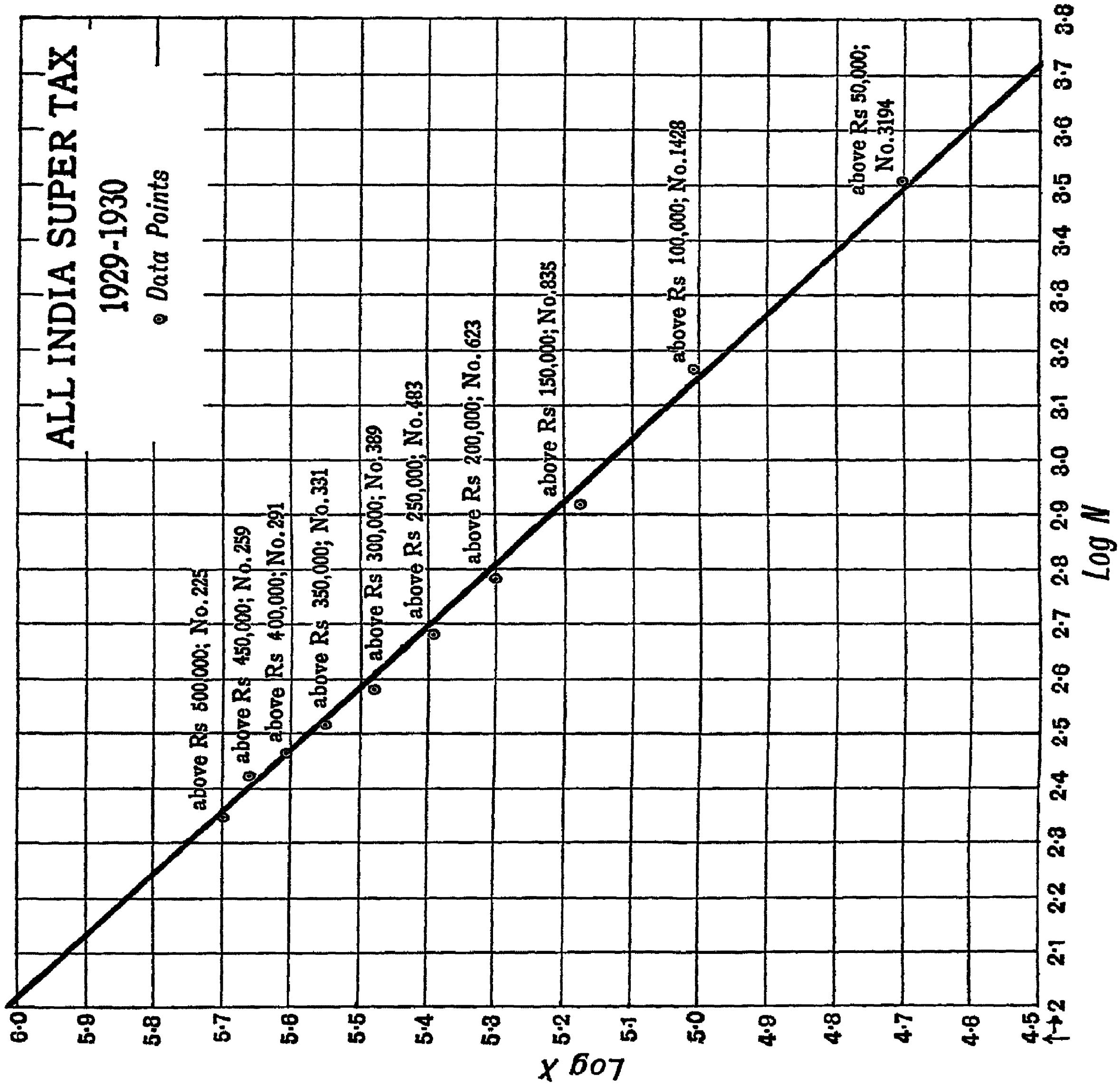
[1] "The deviations of the data from the straight lines might be much less than they are and yet constitute extremely bad fits. The data points (even on a non-cumulative basis) do not flutter erratically from side to side of the fitted lines; they run smoothly, passing through the fitted line at small angles in the way that one curve cuts another. Now, in curve fitting, such a condition always strongly suggests that the particular mathematical curve used is not in any sense the 'law' of the data." *Income in the United States: Its Amount and Distribution* (1909–19), New York, National Bureau of Economic Research, 1922, Vol. II, p. 363.

The curves for Bombay were parabolic in the same way as the corresponding Graph I for 1929–30 for all India. The graphs of the other provinces were similar. The points in the lowest interval of income tax are below the line, those in the middle interval above the line but not in any way lying along a line. Those in the highest interval were again below the line and also



these graphs were similar, which is very important in the wide deviations of the points from the Least square line. Province data, therefore, do not fit in with Pareto line. In spite of the fact that the graphs appear to be similar in the distribution of points about the Pareto line, it will be seen from the analysis given in the appendices that the distributions are not identical.

There is a very large variation in the distribution index, *i.e.* in the slope of the least square or Pareto lines in both income tax and super tax. We are, therefore, dealing with a different distribution of national income from year to year. The relative incomes of the poorer and richer classes do change with the



change in economic conditions in the different years under examination. Pareto's law in its most dogmatic form would require the constancy of the slope from year to year and from country to country, but, as already pointed out, Pareto had ultimately to recognise that constancy was impossible. The variations in the Indian income-tax and super-tax lines are striking, as will be seen from the following tables:

TABLE I

Slope of the Pareto Lines—Income Tax

Year.	Slope.	Year.	Slope.
1913–14	1·45	1924–25	1·23
1914–15	1·46	1925–26	1·22
1915–16	1·46	1926–27	1·22
1916–17	1·44	1927–28	1·47
1917–18	1·39	1928–29	1·52
1923–24	1·13	1929–30	1·48

TABLE II

Slope of the Pareto Lines—Super Tax

Year.	Slope.	Year.	Slope.
1923–24	1·01	1927–28	1·18
1924–25	1·13	1928–29	1·14
1925–26	1·12	1929–30	1·15
1926–27	1·16		

The slope in Table I varies from 1·13 to 1·52 and in Table II from 1·01 to 1·18. Thus α is anything but constant in the case of income tax and even in super tax the slopes are not constant, and thus the distribution of income among super-tax payers cannot be said to be relatively constant. The value of the slope of the Pareto lines varies from province to province, as will be seen from the table below :

TABLE III

Slope of the Pareto Lines for Provinces—Income Tax

Province.	Slope, 1928–29.	Slope, 1929–30.
Assam	1·71	1·71
Punjab	1·66	1·70
Central Provinces	1·68	1·70
United Provinces	1·60	1·62
Madras	1·50	1·52
Bihar and Orissa	1·54	1·51
Bombay	1·40	1·39
Bengal	1·32	1·34
Burma	1·35	1·29

It will be interesting to compare these results with those arrived at by the Bureau of Economic Research with regard to the American returns. The slope of the Pareto lines in the case of the United States is 1·56 for 1914, 1·42 for 1915, 1·42 for 1916, 1·54 for 1917, 1·69 for 1918 and 1·73 for 1919. There is thus a

large variation in the index, the lowest being 1·42 and the highest 1·73. The analysis of the data for 1915 and 1918 shows that the distributions of incomes for these years were entirely different.[1]

A further test of the accuracy or inaccuracy of the so-called Pareto law is to assume that the law is correct and to calculate for each income group for all the years analysed the extent of the evasion. Stamp, assuming the law to be true, found the number of missing incomes in super-tax incomes in the interval £5,000–£10,000. If it is possible to find such evasions in the case of India, the usefulness of the Pareto formula for this purpose, quite apart from its having any value as an interpolation or extrapolation formula, is clear. The difference between the number calculated from the Pareto law and the actual number is assumed to be the number evading income tax and super tax. if the Pareto formula is applicable. The results are given in the appendices and are striking. In the first of these tables there is generally for the years 1913–14 to 1917–18 evasion in the lowest intervals; over-taxation in the middle intervals; and in the highest range again there is evasion. The maximum evasion in this group, 19·2 per cent., occurs in the interval of Rs. 2,000–Rs. 5,000 for the year 1916–17, while the maximum over-taxation, 31·6 per cent., also occurs in the same year in the interval Rs. 10,000–Rs. 20,000. To anyone acquainted with Indian income tax administration it is incredible that 32 persons out of every 100 in the range of Rs. 10,000–Rs. 20,000 are over-assessed, as such an over-assessment would have given rise to appeals. Such appeals were rare. In the second group, viz. from 1923–24 to 1929–30, we get similar interesting results. For the years 1923–24 to 1925–26 there is evasion in the lowest interval, Rs. 2,000–Rs. 5,000; over-assessment in the intervals Rs. 5,000–Rs. 20,000 and again evasion in the intervals Rs. 20,000–Rs. 40,000. For the years 1927–28 to 1929–30 there is evasion up to Rs. 5,000; over-assessment throughout the whole range of incomes from Rs. 7,500 upwards except in the highest interval, Rs. 40,000–Rs. 50,000 for 1927–28, where there is 1·4 per cent. evasion. The maximum over-assessment in this group is 39 per cent. in the interval Rs. 20,000–Rs. 25,000 for 1927–28, and the maximum evasion 47·5 per cent. in the interval Rs. 2,500–Rs. 3,000 in 1928–29. On account of the reorganisation of the Department in 1926–27 the administration of income tax was far more vigilant in 1928–29 than in any previous year. Never-

[1] *Income in the United States: Its Amount and Distribution* (1909–19), New York, National Bureau of Economic Research, 1922, Vol. II, pp. 366–67.

theless, the Pareto law, if true, would show a greater evasion in that year than in 1913–14, and evasion and over-assessment are greatest during the period 1927–28 to 1929–30, a strange commentary on the Pareto law. It is noticeable, too, that the extent and distribution of evasions and over-assessments differ in the various income intervals from year to year. In Appendix III the maximum evasion is as high as 59·9 per cent. in 1929–30 for incomes between Rs. 2,000 and Rs. 2,500 in Bihar and Orissa, and the minimum 17·8 per cent. is to be found in the same year and for the same income in Bombay. The maximum over-assessment is as much as 64·6 per cent. in Bihar and Orissa in the case of incomes between Rs. 10,000 and Rs. 12,500 for 1929–30. From an examination of the income tax data for the years 1913–14 to 1917–18 and 1923–24 to 1929–30 it appears that the Pareto formula will not be of use, mainly for the following reasons :—

(1) The law gives considerable negative evasions (*i.e.* over-assessments) above Rs. 5,000 throughout the greater portion of the range of income tax assessment, which is absurd; and (2) the law gives greater evasion in the period 1927–28 to 1929–30 than in the period 1913–14 to 1917–18, which is impossible in view of the far greater efficiency introduced in the period 1927–28 to 1929–30 in income tax administration in India. In Appendix II the data of super tax show a maximum over-assessment of over 24·2 per cent. in the interval Rs. 4½–Rs. 5 lakhs in 1923–24, and a maximum evasion of 30·6 per cent. in the interval Rs. 2½–Rs. 3 lakhs in 1926–27. Can there be evasion to the extent of 30·6 per cent. in the super-tax assessment of British India to-day, and will there be over-taxation to the extent shown in Appendix II? The answer to this question by anyone acquainted with Indian income-tax administration and Indian conditions of assessment obtaining will be a very definite "Impossible." Even in the case of super-tax data, which have a closer fit to the Pareto lines than income-tax data, the evasions and over-assessments far transcend anything that could be in practice expected.

(2) The non-cumulative distribution for the sample years 1917–18, 1926–27 and 1929–30 for which the graphs on a cumulative basis are given was plotted, and it was found that the distributions were far from linear; in fact the cumulative distributions for the years 1917–1918 to 1926–27, which appear to be linear at first sight (Graphs II and III), showed definite concave curvature throughout the range on a non-cumulative basis, thus dis-

proving Pareto's Law. The super-tax data for 1929–30 were also plotted on a non-cumulative basis, and it showed hollows and bumps even in the middle interval, so that it also confirmed the mere superficiality of a closer approximation of the data to the Pareto line observed in Graphs (IV) and (V). In fact if the Pareto law as given in all treatises, *i.e.* $N = \frac{A}{x^a}$, is true with respect to cumulative distribution, a similar law should, as noted, hold good for the non-cumulative distribution. The non-cumulative distribution in both income tax and super tax for the years noted above, however, was not at all linear in any interval, and this further confirmed the results obtained on the cumulative basis that Pareto's law did not hold.

IV

The conclusions after a detailed examination of the income-tax and super-tax statistics of British India and also of the provincial data in all provinces over a series of years are briefly these :—

(i) The points of the income-tax data do not lie even roughly on a straight line, *i.e.* the Pareto line. This is true for the Indian income tax, super tax, as well as for the provincial data. In fact it will be observed that there is significant concave curvature in the All-India income tax, as, for example, in the graph for 1929–30.

(ii) The non-cumulative distribution of income is definitely also not linear.

(iii) The slopes vary from time to time both for income tax and super tax and the variation is large enough not to be negligible. The slopes vary considerably also from province to province. Indeed, Pareto himself realised in his later work that the slopes cannot remain constant.

(iv) The evasions calculated are impossible, as they become very considerable and negative, indicating large over-assessment in a great part of income tax.

(v) The interpolation or extrapolation within small limits of a formula is admissible when the formula fits in well with the data. The Pareto lines, as shown above, do not fit in with the data and cannot be used without serious error for interpolation or extrapolation purposes. If the so-called law does not apply to that portion of income which

is liable to income tax, it will much less apply to incomes which are outside that range.

(vi) It may be argued that if the Pareto law cannot be applied to the corpus of Indian income statistics, it is due not to the inherent defects (if any) of the "law" but to the inaccuracies of the statistics examined. This plea cannot stand, as anyone intimately acquainted with income tax administration in India to-day could at once disprove the large evasions and over-taxation which, assuming the law to be true, I have obtained particularly with regard to the super-tax data.

There is indeed no Pareto law. It is time that it should be entirely discarded in studies on the distribution of income.

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APPENDIX I

Percentage of Evasions in All-India Income Tax.

Note: + means evasion and — means over-assessment.

Income grade (in thousands of rupees).	1913–1914.	1914–1915.	1915–1916.	1916–1917.	1917–1918.	1923–1924.	1924–1925.	1925–1926.	1926–1927.
1–2 . .	+ 1·4	+ 2·2	+ 4·2	+ 7·8	+ 5·7	—	—	—	—
2–5 . .	+15·6	+14·1	+11·2	+19·2	+11·7	+ 2·1	+11·9	+12·2	+12·1
5–10 . .	—10·5	—12·2	—12·1	—17·7	—10·8	— 5·3	—11·4	— 8·3	— 8·5
10–20 . .	—13·3	—17·6	—13·8	—31·6	—13·6	— 9·2	— 9·2	—13·8	—12·3
20–30 . .	+ 0·0	—14·6	—12·9	—18·4	— 7·0	+ 5·5	+ 5·5	+ 3·3	— 2·2
30–40 . .	+ 1·9	+ 9·5	+ 4·3	+15·2	+ 3·8	+32·7	+25·0	+20·2	+20·5

Continued for the years 1927–30.

Income grade (in thousands of rupees).	1927–1928.	1928–1929.	1929–1930.
2–2½	+35·3	+42·3	+39·1
2½–3	+42·2	+47·5	+40·6
3–3½	+25·3	+32·0	+26·7
3½–5	+21·0	+25·2	+24·5
5–7½	+ 0·4	+ 3·7	— 5·3
7½–10	—16·4	—14·9	—22·4
10–12½	—36·5	—36·6	—38·3
12½–15	—14·8	—13·7	—18·2
15–20	—28·6	—31·2	—35·3
20–25	—39·0	—37·3	—37·4
25–30	—27·1	—29·8	—28·1
30–40	—12·4	—16·7	—13·7
40–50	+ 1·4	— 9·3	—12·1

APPENDIX II

Percentage of Evasions in All-India Super Tax.

Note: + means evasion and — means over-assessment.

Income grade (in lakhs of rupees).	1923–1924.	1924–1925.	1925–1926.	1926–1927.	1927–1928.	1928–1929.	1929–1930.
½–1	—13·4	— 7·9	— 6·5	— 7·9	— 0·5	+ 2·7	— 3·1
1–1½	+ 1·7	+ 2·2	— 1·9	— 0·6	— 5·0	— 8·1	—13·4
1½–2	+ 4·0	+ 6·6	+ 5·7	+ 1·3	— 3·5	+ 0·8	+15·6
2–2½	+10·1	+ 6·5	— 9·0	+ 1·5	+ 5·3	— 2·1	+ 0·7
2½–3	— 4·0	— 7·7	+ 1·2	+30·6	— 7·1	+ 1·1	— 1·1
3–3½	+16·9	+ 3·2	+11·7	—21·7	+ 5·1	+15·9	+ 9·4
3½–4	+29·6	+29·2	+23·9	—11·6	0	— 4·3	+16·7
4–4½	+24·4	—22·9	+29·9	+30·3	+12·1	+17·1	+11·1
4½–5	—24·2	0	+ 3·7	— 3·8	+ 4·0	+ 0·0	—21·4

APPENDIX III

Percentage of Evasions in Provinces

1929–30

Note: + means evasion and — means over-assessment.

Income grade (in thousands of rupees).	Bombay.	Madras.	Bihar and Orissa.
2–2½	+17·8	+58·6	+59·9
2½–3	+37·5	+45·6	+57·0
3–3½	+25·7	+29·6	+38·6
3½–5	+19·5	+22·3	+24·0
5–7½	— 3·2	— 5·1	— 9·5
7½–10	— 9·2	—25·1	—23·9
10–12½	—35·8	—34·0	—64·6
12½–15	— 3·1	—20·5	—17·8
15–20	—20·9	—35·2	—41·7
20–25	—36·8	—32·1	—36·7
25–30	—13·7	—43·6	—18·0
30–40	—15·3	—11·7	— 8·3
40–50	—23·3	—32·4	—29·0

THE IMPUTATION OF ADVERTISING COSTS

I. The theoretical treatment of advertisement may now be said to be rapidly approaching a position in which the authorities are in fundamental agreement. Consequently it is possible to summarise briefly the sort of analytical approach to the imputation of the advertising expenditure of an individual firm upon which agreement would be general for all practical purposes.[1] The definition of advertisement, or selling costs, is arrived at in a quite arbitrary manner, taking as the "basic product" a good in a finished and consumable state, preferably the product of one source, so that for short periods a cost of production curve, characterised by the pertinent indivisibilities, can be drawn for it. From this basis one proceeds to investigate the relation between this cost of production curve and the net revenue curve obtained by (*a*) offering the product for sale at different prices, (*b*) purchasing, or producing, and giving away with it different combinations of goods and services at each price. Some of these may be offered in fixed proportions with the product, *i.e.* fancy wrappings, and

[1] There are two alternative methods of approach to the subject. The first is that of Knight (*Risk, Uncertainty and Profit*, p. 157): "The increase of value through advertising, whether informative or merely persuasive, is quite parallel to any other form of production or 'creation of utilities.'"

The second may be illustrated by a quotation from Baster (*Advertising Reconsidered*, p. 70): "The first conclusion furnished by our analysis of advertising costs is therefore that they are like other costs in their origin, but for the major part most unlike in their effects . . . the profits which emerge from the first sort of expenditure are a measure of the success with which the business man has adapted the resources he controls to the needs of the community of purchasers, whereas the profits from the second sort are usually a reward for distorting the productive machine to the extent that it now meets the 'apparent' needs of the community instead of the 'real' needs." Unfortunately it is clear by now that the real baby has disappeared with the apparent bath-water, as we have no means of ascertaining what the real needs of the community may be.

The late Mrs. Braithwaite ("The Economic Effects of Advertisement," Economic Journal, March 1928) adopted a position very similar to that of Knight. "Now advertising expenditure . . . aims at increasing sales by affecting the mind of the consumer. By various appeals it induces him to change his subjective valuation of the commodity. Thus the marginal utility of the commodity is increased and the demand curve raised." This appears to be the only logically satisfactory way of handling problems of advertisement, treating them as cases of the joint supply of the commodity concerned with what Mrs. Braithwaite called "reputation." It is the method employed by the present writer on other occasions, and Chamberlin (*Theory of Monopolistic Competition*, p. 123) adopts a definition of selling costs which falls very closely into line.

these will tend to be incorporated with the product at the source, even if they are not manufactured there: thus they will not be entirely without effect on the cost of production curve. Others, *i.e.* "reputation" or "prestige," will be purchased from the manufacturers (the advertising agencies), whose services may be assumed to be in perfectly elastic supply to all competing industries: this type will not tend to be offered in fixed proportions and will have no effect on the cost of production of the basic product except in so far as it enables economies of scale to be exploited.

The effect of advertisement upon prices depends upon its effect upon the elasticity of the demand (or rather sales) curve which is obtained with its assistance, relatively to the elasticity of the demand curve without advertisement and the elasticity of the supply curve. It is not possible, however, to apply the mechanism which Mrs. Robinson [1] has perfected in order to ascertain whether prices will rise or fall when demand is increased, to the situation thus created. The reasons are as follows.

Let a demand, or "sales," curve be drawn, embodying all the preceding conditions, together with the further assumption that at each price the firm continues to advertise until the net revenue derivable from advertisement, *at that price*, becomes relatively unprofitable, *i.e.* up to the point at which it would be equally profitable to change to another price with appropriate advertisement. Thus this curve shows what quantity the firm will sell at any given price; it also shows what price the firm will obtain for any given quantity offered. But the relation between this *sales* curve and the supply curve of the firm does not determine what the most profitable combination of price, output and advertisement will be, because the former shows only the gross revenue of the firm, from which the cost of advertisement must be subtracted in order to ascertain the profitability of any position. This is given by the relation between the *net* revenue curve, showing what will be the net income of the firm from combining the most profitable amount of advertising with the most profitable price for each volume of output, and the cost of production curve. This curve shows what the most profitable output will be, but does not indicate what price that output will fetch, as its ordinates measure only net revenue.

Therefore, in order to discuss the effect of increased demand, which has been invoked by advertisement, upon price, it is necessary to know the relation between the demand curve without

[1] *Economics of Imperfect Competition*, Book III.

advertisement, the net revenue curve with advertisement (indicating the most profitable output) and the gross revenue, or sales, curve (indicating the price at which that output will be advertised and sold). These relationships have been illustrated elsewhere [1] by the present writer, by means of some somewhat inelegant amateur geometry which it is not proposed to reproduce; they depend upon the rate at which the yield of advertisement declines at any given price, and the rate of change of this rate of decline over the whole range of price. The result may equally well be to raise or lower prices; this depends upon the elasticity of the net revenue curve relative to the cost of production curve in the first place. If the new output, resulting from advertisement, is greater than the original one it is possible that prices may fall. Clearly if the output is reduced after advertisement this is extremely improbable, even if the marginal cost of production was originally rising, because the price charged now has to cover the cost of advertisement. If, then, the new output exceeds the old, prices will tend to fall if the rate of decline of the yield of advertisement decreases at each successive falling price to a sufficient extent, *i.e.* if the profitability of advertisement increases enough as prices are reduced. As it appears reasonable to suppose that on the whole the relative effectiveness of advertisement will be greater at lower than at higher prices (though, as Lerner [2] points out, this is not necessarily the case), one would expect that in the majority of cases the sales curve resulting from advertisement would tend to exhibit a greater degree of convexity to the origin than the demand curve from which it is derived. But, as should be clear from the preceding argument, one cannot draw conclusions concerning profitability from a curve from which advertising expenses have to be deducted—a point which appears to be frequently overlooked by the professional apologists of the advertising profession. The increase in elasticity of the sales curve with advertisement must be sufficiently great to compensate for the cost of advertising, if it is to lead to lower prices.

II. The theoretical treatment of advertising in the preceding section provides a basis from which it may prove possible to develop a technique capable of effective employment in investigating the effect of advertisement upon prices in the last few years. Before producing the available data for such an investigation,

[1] "Advertising Costs and Equilibrium," *Review of Economic Studies*, Nov. 1934. Also, "Discontinuous Demand Curves and Monopolistic Competition," *Quarterly Journal of Economics*, May 1935.

[2] "Concept of Monopoly and the Measurement of Monopoly Power," *Review of Economic Studies*, June 1934.

however, it is necessary to devote some time to a very grave misgiving which has probably been forming in the mind of the reader. The previous section commenced by laying down conditions of such strictness concerning the definiteness of the structure of the scales of preference and the perfection of the information at the disposal of the entrepreneur, that it is extremely improbable that they would ever be met with in the real world. It then proceeded to develop an argument of which the turning-point was the awareness of the entrepreneur of the exact rate at which the yield of expenditure upon advertisement declined at any price, and of the exact point at which that decline would render a change of price (with appropriate expenditure upon advertisement) more profitable. Similar assumptions, concerning price movements and costing, are, of course, fundamental to economic science, and the general body of theory is in no way invalidated by the obvious fact that exact costing on the one hand, and exact measurement of the results of price changes on the other, are not normally possible to the entrepreneur.

The imputation of advertising costs presents greater difficulties than those connected either with alterations in the technique of production or with changes in price. Given an efficient costing system the former can be carried to a high degree of precision, while the latter, if measured against a correctly drawn background of contemporary economic data, can be estimated with sufficient accuracy to form a reliable guide to commercial policy. Advertisement, however, presents peculiar difficulties to the entrepreneur who seeks to estimate the return from his outlay: these difficulties may be resolved roughly into three groups—those arising from the ignorance of the advertiser as to where those consumers lie who are just outside his market, those arising from the time lag between outlay and return, and those arising from the fact that for the most part advertisement is conducted through the medium of specialised agencies. The first of these groups is treated very adequately by Chamberlin.[1] "The truth is that an advertisement is not limited in its effects to those consuming other varieties of the same general class of goods. It is not even true that there is less resistance to be broken down by addressing the advertising appeal to consumers using other varieties of the same general class of product. . . . Furthermore, new uses for a product may be suggested which will induce greater consumption generally, and, by skilful suggestion, draw a large share of the increase to the advertised commodity. The best policy would depend upon the

[1] *Op. cit.*, pp. 128–9.

nature of the 'potential' market. It is, indeed, conceivable that the advertiser's market should be increased entirely at the expense of his nearest competitors. But it is much more likely that the increase will be only partially or not at all at their expense." One may also note a letter, recently quoted in the *Advertising World*, in which the managing director of a large fountain-pen company complained bitterly that his rivals were leaving the whole of the advertisement of fountain pens in England to himself.

Another aspect of this uncertainty, however, is even more important, to wit, the risk which the advertiser may incur through provoking retaliation from some powerful competitor whose territory he has unwittingly invaded. Almost every statistical record of an industry's joint expenditure upon advertisement exhibits periods of extraordinary activity which can be usually traced to an "advertising war" which often seems, upon investigation, to have resulted from the launching of a new product not obviously in competition with the one which found its sales depleted and commenced to retaliate. This sort of thing renders any attempt at statistical analysis of advertising expenditure in connection with either prices or sales a very precarious business: the mistake of one entrepreneur in price or advertising policy may involve the whole industry (or rather "complex of competing producers") in losses. All may increase their advertisement as a means of minimising their losses, the sales of all may increase by drawing some custom away from other industries, but do so insufficiently to recoup them for their increased expenditure. In such cases the correlation between sales and advertisement can be extremely misleading, as both the records of the individual firms and of the industry show an increased expenditure upon advertising which accompanies an increase in sales, but which was not deliberately embarked upon in order to enlarge their sales by the amount shown, as a paying proposition, but in order to protect the market of each from the advertisement of the others. Ultimately, of course, just as every product is a partial substitute for any other, every piece of advertisement is a possible encroachment upon somebody's market.

The second group of difficulties, those connected with the time lag between outlay and return, cannot be separated from the question of how far expenditure upon advertisement is divisible. It is the common conviction of all writers upon the practice of advertisement that unless enough is spent to "make a good show," and unless the good show is kept up long enough to make an

impression on the public memory, advertising appropriations tend to be wasted. The minimum sum is, of course, determined by the size of the potential market; the length of the minimum period over which expenditure must be maintained appears, however, to be considerable. F. W. Taylor [1] quotes the managing director of Carreras as saying, "Sums like £5,000 and £10,000 are less than a mere bagatelle in the buying of newspaper space for anything like a worth-while campaign directed even to winning a foothold in the market for cigarettes. New-comers to national advertising must realise that they must not expect it to pay for the first two years." Sir. L Weaver,[2] in the course of an article on the scheme for the advertisement of coal gas promoted by the British Commercial Gas Association, is in substantial agreement, although speaking from experience gained in the advertisement of a very different commodity. "Experience shows that a co-operative campaign on a very restricted scale is waste of money. . . . It is reasonable to budget for a campaign of not less than three years, and to provide for its annual increase in the proportion, for these years, of 2 : 3 : 4 as an ideal, but in any case of not less than 2 : 3 : 3. I know of no co-operative campaign that has been conducted competently and with vision that has ceased after three years, and that is as long as the organisers need be asked to look forward. . . . The agents cannot hope to see any return on their first year's work, which must inevitably be conducted at a loss."

If the period needed to impress the public mind by means of advertisement is so long, it is difficult to know where to place the costs of an advertising campaign. Clearly in the case of a new firm entering the market, and preparing its path by introductory advertisement, the cost of this introduction should be placed among the sunk costs of the firm, and cannot enter into prime cost. Similarly, if a firm already in existence plans to extend its activities from serving a local market to serving a national one, the interest upon the money spent in assisting to effect the transition is as much a part of the new fixed costs of the firm as are the interest charges upon the enlarged productive plant. But if, when the new firms, or the enlarged firm, are in operation at what is now their normal scale, they vary their advertisement from time to time, it is difficult to be quite sure how to place the increased expenditure, or to know over what period of time to expect results attributable to the increased expenditure.

[1] *The Economics of Advertisement*, p. 217.

[2] *Advertising World*, May 1927.

It is probable that fairly steady advertisement, continuing after the normal scale of production of the firm has been reached, should be considered a part of prime cost—as a necessary part of the expenditure specific to producing and selling a given output. It will thus enter into the marginal net revenue curve determining output, albeit as a minus quantity. But any considerable changes in advertisement, as it is not probable that their full results will become manifest until some time after they have taken place, cannot be regarded as prime cost to be measured against current sales. Indeed, if a sufficiently short period be taken, they fall into the category of sunk costs. It seems, therefore, that there are two distinct ways of treating them, either of which is equally likely to appear in practice: they may be spread out over the period in the course of which it appears reasonable to suppose that their effect will become exhausted, adding interest to the dwindling principle, or, alternatively, they may be treated as sunk cost and the interest upon them added to the fixed costs of the firm. It is evident that the adoption of either one of these two methods would give a very different version of the profitability of an advertising campaign from that resulting from the employment of the other. The more usual accounting practice appears to consist of some variation upon the former method, and is probably the more correct. The diversity of practice is, however, very great, and Cherrington,[1] whose work in this field won the commendation of Marshall, puts the position very clearly.

"At one extreme we have firms who contend that since advertising results cannot be shown separately on the books, the only safe treatment is to handle all advertising outlay as if it were a dead loss. Again, we find those who contend that an advertised product is already partly sold, and that . . . advertising outlay should be treated as selling expense. And yet again we find those who believe that the effects of advertising are mainly on the value of the product in trade, and that therefore these expenses belong among production costs. And still others believe in treating these outlays as of the nature of an investment." This confusion obviously is a factor tending to minimise the value of any statistical analysis of advertisement; unless one is aware over what period the return from an increased outlay is to be expected, the correlation of sales with advertising expenses can produce the most misleading results. This difficulty is, of course, only the reflection of the real problem of the entrepreneur.

The third group of difficulties arises out of the fact that the

[1] *Advertising as a Business Force*, p. 171.

vast bulk of advertisement is carried out through the intermediary of specialised agencies, which are quite naturally interested in persuading the entrepreneur to spend the maximum upon advertisement, and whose stock-in-trade consists of an exhaustive knowledge of the technique of persuasion. The probable result of this is hinted at by Baster [1] when he says, "If advertising agents mislead their clients by the same means as they mislead consumers, which seems not unlikely, business men will carry their advertising expenditure past the point at which it ceases to be profitable." The obvious comment which one is tempted to make concerning this argument is that *all* the firms supplying goods or services to the firm in question are attempting to maximise their sales to it, and are themselves employing skilled advertising agents to that end. And it may further be observed that if the persuasiveness of the advertising agent is sufficiently great to influence the hard-headed business man to employ him extensively, it will necessarily be adequate to the task of selling a proportionate quantity of his wares to the less hard-headed public.

But this is not quite right. If an enterprising oil-merchant persuades firm A to buy more engine oil than it needs, the only effect upon firm A is that for a time capital is tied up unremuneratively in excess stores, and the effect upon its rival, firm B, is nothing at all. If, however, firm A spends too much upon advertisement, *i.e.* proceeds upon the assumption that the success of an advertising campaign on its part will have no effect upon the conduct of its rivals, the effect upon firm B will almost certainly be such that it will retaliate with an advertising campaign of its own. This is the assumption which Chamberlin [2] employs as the basis of his section on "Selling Costs and the Theory of Value: Group Equilibrium," and as it is there advanced the present writer has elsewhere criticised it, on the grounds that it does not appear reasonable to assume that an entrepreneur can know his market sufficiently well to be aware of what the return to him from an advertising campaign would be, on the assumption that the selling costs of his competitors remained unchanged, without at the same time having a pretty shrewd idea of how far they were likely to change when his own changed. It now seems, however, that an explanation for the frequency of this sort of conduct is forthcoming, in the presence of an interested party, and to the extent to which credence is given to this explanation

[1] *Op. cit.*, p. 86 n.
[2] *Op. cit.*, pp. 149–70.

one must view with scepticism the defence which Taylor [1] advances for the "market research" activities of the advertising agencies.

The situation seems to be that if only one firm in an industry allows itself to be persuaded to over-advertise, a general increase in the scale of advertisement must become universal. The advertising industry thus appears to enjoy what may be called "*external economies*" to an extent which is only equalled by the armament industries; an increase in the business of one agency almost inevitably leads to an increase in demand for the services of all the rest. In these circumstances it is not unreasonable to suppose that the existence of specialised firms whose profits depend upon the amount of advertisement they can persuade their clients to undertake, and whose profession it is to persuade, is a factor making for increased difficulty in the already complicated task of imputing returns to expenditure upon advertisement.

The preceding catalogue of the difficulties of imputation, with its rough threefold division, seems to leave it well within the limits of probability that a considerable proportion of the resources devoted to advertisement is wasted (quite apart from the application of any "social" criterion) in the sense that it does not lead to a sufficient increase in sales to pay for itself. How far is it possible for statistical investigation to answer this question? The data needed for any really satisfactory investigation would be very full, and its results would not be very certain, but they might lead to some indication of the degree to which the theoretical treatment of advertisement in relation to prices indicated in the previous section are applicable to the real world.

For purposes of such an ideal investigation it would be necessary to have figures of sales and advertising expenditure both for individual firms and for industries as a whole. If, for an industry as a whole, an increase in advertisement was accompanied by an increase in sales, there would be a presupposition in favour of the view that advertisement was profitable to the typical firm in the industry. But if, as in the hypothetical case cited earlier, the misguided advertisement of one firm had led to a general extension of retaliatory advertisement involving the industry in general losses, but transferring some new custom to the industry, these data are not enough. They require to be reinforced by a record of profits: if, when the industry as a whole increases its advertisement, its profits also increase, it is fairly safe to take an optimistic view of the results of advertisement for that industry

[1] *Op. cit.*

—although the mere co-existence of increased profits and increased advertisement is no evidence of causal connection. It is possible in such a case that had less been spent upon advertisement (with or without following a different policy of price or product variation), profits might have been still greater; it is also possible and indeed probable that the effect of the general cyclical movement, or a secular change specific to the industry, may have inflated profits and advertisement together. The former of these two disturbing factors may be eliminated by measuring changes in profits against some comparable general average, and changes in advertisement against an index of total expenditure thereupon. The latter cannot, and indeed should not be eliminated, as there is no way of ascertaining if the secular change was or was not the result of advertisement. In a general sense, however, it is probably true that if the profits of any one industry are increasing faster than profits in general at the same time that advertisement in that industry is increasing more rapidly than advertisement in other industries, advertisement is "productive" for the normal firm in the industry. This implies that the normal firm can be fairly certain about the results of its expenditure upon advertisement and is unlikely to spend more than is profitable for itself considered alone, or, which is another aspect of the same thing, is unlikely to start an advertising "war" in which the profits of all firms in the industry would diminish. On the contrary, if increases in advertisement in an industry are accompanied by a simultaneous fall in profits throughout the industry (even if sales increase), it is probable that the difficulty of imputing advertising costs has not been solved by the normal firm.

There is one exception to this argument which is of some importance. If one or more firms in the industry are rapidly growing at the expense of others, then as *their* profits, sales, and advertisement increase together, sales and profits of others will diminish; but it is quite possible, even if the imputation of advertising costs is perfect, that the outlay of the losers may go up as a means of minimising their losses. Thus the industry may show a relative fall in profits (if the losers are making heavy losses) accompanied by an increase in advertisement, which pays the expanding firms, because it is the cheapest way of accelerating their expansion, and pays the firms whose markets are shrinking, because it is the most effective method of minimising their inevitable losses. If the Marshallian hypothesis can be accepted and this movement upwards and downwards can be assumed to be fairly steady, then the effect of growth and decline will be

approximately the same in all industries, and may be overlooked. It should be noted, however, that this will only be the case if it is possible to handle large groups of firms at the same time. In cases where an industry under consideration consisted of a comparatively small number of large firms it would be necessary to have some acquaintance with the history of each firm before attempting to interpret the statistics.

With these provisos in mind it is possible to attempt to interpret such data as are available for the last few years with a view to ascertaining whether advertisement was or was not on the whole a "paying proposition."

TABLE I

Association of Increased and Decreased Advertisement with Increased and Decreased Profits.

Years ending in 1933 and 1934.

Description.	Positive.	Negative.
104 Miscellaneous Companies	57	47
14 Companies producing motor-cars	10	4
11 Companies producing articles of clothing	3	8
9 Breweries, Distilleries and Wine Merchants	7	2
6 Companies producing boots and shoes	4	2
4 Companies producing furniture	3	1

TABLE II

As above; 83 selected Companies classified according to Expenditure upon Advertisement.

Expenditure.	Positive.	Negative.
8 + £100,000	7	1
12 £100–£50,000	7	5
14 £50–£25,000	7	7
15 £25–£10,000	8	7
34 — £10,000	15	19

The main piece of evidence concerning the relation between press advertisement and profits is derived from a comparison between the record of press advertising in the *Statistical Review of Press Advertising* and the profit records of a number of firms over a period extending from the third quarter of 1932 to the present day. The extent of the information available, however, is far less than might be expected. In the first place, of the several thousand companies quoted in the *Review*, only 104 satisfy the double criterion of being quoted throughout all the quarterly records of the *Review*, and being public companies whose profits are

available in a suitable form. Moreover, expenditure upon advertisement is classified in the *Review* according to the product classified, and it is possible, in the absence of a complete knowledge of the whole range of products of all the firms, to make grave mistakes concerning the degree to which the expenditure quoted represents the total expenditure of the firm. It is believed that this difficulty has been satisfactorily overcome in the case of the whole of these 104 firms. The two years under comparison, 1932–33 and 1933–34, are not quite identical in the case of all the firms concerned owing to the different dates on which their financial years end : in general the period covered coincides with that of commencing industrial recovery. Thus, in the preliminary examination which follows, in view of the general advance in profits during the period, where profits have remained unchanged they are considered to have diminished.

Table I gives the association between movements in advertising and in profits for the two years : of the 104, 71 increased their profits during the period, and of these 40 increased and 31 decreased their expenditure upon advertisement. Of the 33 whose profits decreased during the period, 17 decreased and 16 increased their advertisement. Of the 56 which increased their advertisement, therefore, 40 increased their profits, and of the 48 which decreased their advertisement, 31 increased their profits.

Separating off industrial groups we find that of 14 companies producing motor-cars, 13 increased their profits, and of these nine increased their advertisement. In 10 cases advertisement and profits moved together; in four cases, in all of which advertisement diminished, they did not. Of 11 companies producing various forms of clothing, seven increased their profits, and of these six decreased their advertisement. Of nine breweries, distilleries and wine merchants, eight increased their profits, and of these seven increased their advertisement. In the case of six boot and shoe companies, three of the four who increased their profits increased their advertisement, and in the case of the four furniture companies all increased their advertisement and three increased their profits.

From this table and the preceding rough analysis it appears that there is no association whatsoever between movements in profits and in advertisement. Taking all the companies together, association is completely absent, and even in those groups such as the motor industry, where some degree of association appears to exist, the smallness of the group invalidates the conclusion.

It is of interest at this stage to reclassify the companies accord-

ing to their actual expenditure: for this purpose it is necessary to exercise a rather more rigorous method of selection than for movements in advertising expenditure. Eighty-three of the companies survive this process of selection and appear in Table II. The general impression which one derives from this table is that there appears to be some justification for the often repeated argument of the advertising profession, that failure in advertisement usually results from defect from, rather than excess of, the optimum expenditure. It also leads one to believe that the value of mere reiteration as a means of making advertisement effective, reputed to have been the discovery of Bonner, the publisher of the *New York Ledger*, remains greater than the exponents of "scientific" advertisement are prepared to admit.

The next step is to make a somewhat more intimate comparison between the advertising expenditure and profits of each of the firms concerned. As we have seen, the ideal method to estimate the profitability of advertisement would be to compare changes in prices, in sales, and in advertisement against a background of prevailing economic conditions with the record of the price and advertisement policy of the closest rivals of each of the firms concerned depicted, as it were, in the middle distance. Unfortunately all that is available is the record of profits and advertisement for 82 firms. In order to relate these, in each case, to the resources of the firms concerned, both are expressed in the calculations which form the basis of the succeeding tables as percentages of the total assets of the firm in the year ending 1934. This datum, although less relevant to the matter in hand than the firm's turnover, which in almost all cases is unobtainable, is perhaps a safer indication of the scale of the firm's activities than any other of the limited number available. In some cases, where prolonged depression has led to a writing down of values, it has become unreliable, but in all cases where this appeared to have been the case the firm has been eliminated from the record. Table III gives the correlation between the profits and the advertising expenditure of the firms in 1932–33, both being expressed as a percentage of the total assets of the firm, and the correlation between movements in profits and advertisement between 1932–33 and 1933–34 on the same basis.

The result of these correlation tables is to confirm the conclusion derived from the association tables. In the case of all the firms taken together, when the totals of profit and advertisement are compared for 1932–33 one would expect the different marketing problems in different industries to lead, as they

TABLE III

Correlation between Advertising Expenditure and Profits.

Group of Firms.	Press Advertising and Profits in 1933, both expressed as % of Assets of the Firm.	Ditto, Movements between 1933 and 1934, also as % of Assets.
82 Miscellaneous	·30	— ·04
9 Motor firms	·46 ± ·19	·67 ± ·12
6 Boot and shoe firms	·30	·27
6 Textile firms	·64 ± ·17	— ·41 ± ·23
5 Breweries, etc.	— ·02	— ·35 ± ·26
5 Firms producing medicated foods	·22	— ·66 ± ·17
4 Furniture firms	— ·31	·23
4 Tailoring firms	·44 ± ·26	·80 ± ·12
7 Firms spending on advertisement + £100,000	·61 ± ·145	·18
31 Firms spending — £10,000	·31	— ·12

obviously do, to an absence of correlation. But even in this case one would expect some correlation in the movement of advertisement and profits over the two years in view of the general expansion of profits (see Table IV). The reverse, however, is the case: evidence of correlation is even weaker in column 2. In only one case, that of the movements of profit and advertisement in tailoring, is even the very weakest evidence of correlation apparent, and this must be discounted on account of the smallness of the group. It appears, therefore, that if press advertising can be relied upon as any indication, and if movement during a period of moderate recovery is in any way representative, there is absolutely no connection between advertisement and profits.

Table IV, although not strictly relevant to the problem, is appended as a matter of general interest: it shows clearly the divergent policy of different industries concerning their expenditure upon press advertisement.

III. It appears probable from the evidence of the preceding section that the effect of advertisement is very similar to that suggested by Chamberlin.[1] "Wherever price competition functions imperfectly, then, it seems likely that advertising diminishes the discrepancy between the actual and the most efficient scale of production. But total costs and prices are higher. Selling costs per unit are greater than the decrease in production costs. The resources expended to achieve this result are therefore greater than those saved by achieving it. And, of course, the balance of excess capacity remains." He arrives at this conclusion by assuming that faulty judgments on the part of

[1] *Op. cit.*, p. 172.

TABLE IV

Comparison of Average Profits with Average Expenditure upon Press Advertising ; both expressed as % of the Assets of the Firm.

Group of Firms.	Profits and Advertisement in 1933.		Changes in Profits and Advertisement 1933–34.	
	P.	A.	P.	A.
82 Miscellaneous	10·3	4·1	2·8	0·0
9 Motor firms	13·3	3·1	3·8	— ·6
6 Boot and shoe firms	7·1	1·35	1·1	·2
6 Textile firms	9·55	3·1	2·0	— ·5
5 Breweries, etc.	18·1	2·0	8·8	·4
5 Firms producing medicated foods	8·6	5·4	0·0	·3
4 Furniture firms	4·3	13·1	4·1	1·7
4 Tailoring firms	3·1	3·5	·7	— ·05
7 Firms spending on advertisement + £100,000	9·9	7·4	1·6	·3
31 Firms spending — £10,000	7·2	1·0	2·9	0·0

oligopolists, concerning the effect of their own advertisement upon the advertising policy of their rivals, led to a steady bidding up of selling costs, until only those firms can survive which are operating upon a scale sufficient to enjoy those economies which obtain in the immediate vicinity of what would be the optimum scale of production under perfect competition. Thus cost of production will be almost, or quite, as low as, under perfect competition, selling cost will be high, and while the price may be greater or less than under imperfect competition without advertisement, the cost of advertisement will absorb the difference between it and the cost of production.

Now, if it is impossible to establish any correlation either between the scale of advertisement and that of profits, or between changes in the former and in the latter, it certainly appears that the advertising agency is playing the part assigned to it, as a hypothesis, in the earlier part of Section II : it is reinforcing what seemed to be the weakest link in Chamberlin's chain of argument, confirming large monopolies in their position, and at the same time causing their costs to equal their revenue. One may note, in passing, that most of the economies of scale in advertisement catalogued by Chamberlin will be rendered available to the small advertiser by the employment of an agency ; thus there will be no such cumulative rate of growth, on the part of the most immediately successful, as would lead to complete monopoly.[1]

[1] This statement needs an obvious qualification. The services of a specialised agency may enable the small firm to spend what it has to spend with as much

Indeed movement towards production at, or near, the optimum scale of production will be slower, on the whole, the more nearly the efficiency of advertisement is equal to all its employers.

Is it possible to produce any further evidence in favour of this conclusion? Owing to the courtesy of the London Press Exchange, records of the advertising expenditure of eighteen firms are available since 1927. Only four of them, unfortunately, are public companies with published profits, but in none of the four cases is the slightest correlation apparent between advertising outlay and profits. Thus these, at least, conform to the pattern set by the result obtained by analysing the returns from our 104 companies; the correlations, on a yearly basis, are respectively $\cdot 33 \pm \cdot 20$, $\cdot 22$, $- \cdot 20$, and $- \cdot 70 \pm \cdot 12$. Now if, as one has some justification for expecting, these firms are representative of the rest of the sample, one would expect to find some indication that the advertising expenditure of those which were in direct rivalry would tend to move very closely together, on the assumption that any temporary advantage gained by one as the result of advertisement would immediately be counterbalanced by the retaliation of his rivals. The firms in question were chosen with the end of throwing light on the validity of this hypothesis; they consist of nine pairs of firms in nine different industries, in all cases firms large enough for their policy to affect that of the industry, and in several instances of the two most important firms in the industry. But, unfortunately for the thesis they were collected to sustain, they do not behave in the expected manner. The correlation of advertising expenditure between each pair of competing firms, over a period extending from 1927 to 1934, annual averages being taken to exclude the fictitious similarity given by seasonal fluctuations, varies from $\cdot 94 \pm \cdot 03$ to $- \cdot 33$, with a fairly regular dispersion and an average of $\cdot 39$.

Another aspect of the conclusions to which Section II seems to lead may be illustrated by comparing estimates of changes in the total expenditure upon advertisement over a period of years with estimates of the growth of efficiency. On a priori grounds one would expect the cost of advertisement to absorb a fairly large proportion of the fruits of technical progress, if the cost of advertisement is effective in reducing the profits of imperfect

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effect as the largest firm could derive from the same expenditure, but it cannot enable the small firm to spend as much as its more powerful rival. The fact that it is possible for, say, Ruritania to produce bombing planes by means of the optimum size plant, does not make the outcome of war between Ruritania and the U.S.A. into an even chance.

competition to a "normal" level. Taylor [1] produces evidence, drawn largely from the census of production, which indicates, with a considerable probability of correctness, that the total cost of advertisement in Great Britain both in the year 1930 and in the year 1924 was in the immediate vicinity of £70 m. If it can legitimately be assumed that the course of press advertising, as indicated by the totals recorded by the *Statistical Review of Press Advertising*, is representative of the movement of advertisement in general, and if it is considered that advertisement in the national dailies, which is on record over a long period, can be "grafted" on to the *Review* index of press advertisement without involving too great a discontinuity,[2] then it is possible to estimate the changes in the total national bill for advertising since 1924. No very great claims can, of course, be made for the result of this extremely roundabout method, but as it is only produced in order to be compared with estimates of general changes in efficiency which can claim no more legitimate origin, it is produced without further apology.

The most relevant dates to select for purposes of comparison with estimates of changes in industrial efficiency are probably 1924, as a starting-point; 1929, as the last "boom" year; and 1934, as an illustration of recovery. Following the method outlined above we obtain as the total cost of advertisement £70 m. for 1924, £83 m. for 1929, and £77 m. for 1934. These figures are of greater interest in another form. Colin Clark, in *The National Income*, estimates expenditure upon consumption (excluding rent of dwelling-houses for obvious reasons and distributive and other services) at £1,914 m. for 1924 and £2,032 m. for 1929; it is probable that the comparable total for 1934 is in the immediate neighbourhood of £1,859 m. Thus the change in the cost of advertising between 1924 and 1929 represented an increase equal to ·4 per cent. of expenditure upon consumption as defined; it was 3·7 per cent. of consumption in 1924, and 4·1 per cent. in 1929. A similar comparison gives us a further increase of ·04 per cent. between 1929 and 1934. Comparison of these figures with estimates of progress in efficiency in the consumption industries will enable the reader to judge for himself to what extent the results have been offset by the devotion of resources to advertisement. The direct effect, at least, appears to have been very slight.

[1] *Op. cit.*, chap. vi.

[2] If the movements of advertisement in the national daily papers between 1924 and 1930 are compared with Mr. Taylor's figures, they will be observed to move very closely together.

This concludes the evidence which it has been possible to collect in support of the thesis that in general the entrepreneur is unable to estimate with any substantial degree of accuracy the results of his expenditure upon advertisement. Its volume is slight and it is possible that the interpretation put upon it in the preceding pages is not the only one, and perhaps not the most plausible one, of which it allows. Had it been possible to arrive at a contrary conclusion, the method of analysis roughly outlined in Section I might have been elaborated and employed, in those cases where data were obtainable, in order to estimate the effect upon prices of changes which are taking place at present in the advertising policy of various consumers' goods industries. In the existing circumstances, however, it is not possible to do this. The conclusions at which we have tentatively arrived indicate indeed that the prevailing level of prices in those industries in which advertisement plays a large part is above that which would obtain under conditions of perfect competition, although possibly below that to which imperfect competition without advertisement might lead. But as no one knows what these prices would be, and even if one could estimate them, no one knows how far the presence of advertisement increases or lessens the imperfection of the market. Therefore any attempt to arrive at a theoretical anticipation of the results of changes in the advertising policy of an industry seems to be quite out of the question.

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THE SOCIAL SIGNIFICANCE OF THE THEORY OF VALUE

§ 1. THE purpose of this article is to examine the view that the theory of value can be used to defend that particular organisation of economic life which is based on the institutions of competition and of private property in the material factors of production.

§ 2. The theory of value is used in two quite different ways to throw light upon the problem of economic organisation:

In the first place it is used to elucidate one important aspect of that problem. It analyses the logical implications of a presupposed scarcity of means necessary to the achievement of certain ends. It reveals the existence of the problem of choice and emphasises the importance of a trustworthy economic calculus. It reveals the relationship between this calculus and personal liberty in consumption. It shows that only one kind of calculus will do, and that if individual consumers are to be free to influence the relative outputs of commodities in order to secure that combination of goods which they prefer, there is one arrangement of resources which is better than any other. Such an arrangement can only be revealed by discovering the value of the marginal products of mobile resources in all uses.[1]

But all these forms of the theory are purely analytic. They show the logical implications of certain assumptions. They diagnose the problem of combining a utilitarian calculus with

[1] It has frequently been argued that such a principle is invalid because (*a*) a free pricing system may reduce total output, and (*b*) relative productivities have no meaning in a regime of unequal incomes. Such arguments, however, miss the essential point. In the first place, no convincing reasons have ever been advanced for supposing that a system of costing aimed at satisfying consumers' demands would reduce output. Why should one arrangement of resources be more difficult to achieve than another? In the second place, the principle is independent of the distribution of income. If income were equally distributed the ideal of freely chosen consumption remains. There may be something to say for bringing about the redistribution of income in a transitional stage partly by subsidising the goods consumed by the poor and taxing those consumed by the rich. But such a policy would leave the principle of consumers' freedom unaffected. The principles concerning the distribution of income are independent of the way in which the recipients of income can effect the distribution of resources. See Dickinson, ECONOMIC JOURNAL, 1933; Maurice Dobb and A. Lerner, *Review of Economic Studies*, 1934, for discussions of this problem.

liberty, but they tell us nothing of the institutions by which the real problem of arrangement can be solved.

In the second place, however, the traditional theory of value does go beyond mere diagnosis or formal logic. The theory of competition sets out to show that, under a certain set of actual legal institutions, the correct calculations and the best arrangement of resources (in the above sense) will be made. Reduced to its barest outline the theory of competitive equilibrium attempts to prove, (*a*) that if the goods demanded by the consumers can be subdivided so that there are many buyers and many units in demand, and (*b*) that if production can be organised without technical loss in a number of separate manufacturing and commercial units, the best arrangement of resources will be secured by private property in land and capital.[1]

The theoretical demonstration requires two further conditions that are not always stated plainly. The atomic producers must possess a peculiar *type of foresight.* They must have enough foresight to plan production so as to maximise their long-period profits. Otherwise they would fail to make the adjustments necessary to secure *the best* technical arrangements for production. But they must not possess too much foresight, or they may cease to compete. Again, competitive equilibrium will only be reached as long as the *rate of change in the data*—the underlying demand and cost functions—is not greater than the maximum speed of adjustment of which the producers are capable. Otherwise the competitive adjustment will always be towards a situation that has already become irrelevant and no tendency to equilibrium would be present.[2]

On the basis of these four assumptions it has frequently been claimed that the theory of value proves that private enterprise will secure the best arrangement of resources for any "want and production system" whatever.

The conclusion is held to follow wherever the conditions of scarcity exist, and to apply to any type of product whose use and manufacture can both be sufficiently subdivided. Each product will absorb just that quantity of mobile resources which is desirable.[3] Property in capital resources and the pursuit

[1] See T. E. Gregory's *An Economist looks at Planning,* passim; Hayek, "The Trend of Economic Thinking," *Economica,* 1933; Robbins, *The Great Depression,* Chaps. VII and VIII, passim, particularly Chap. VIII; Plant, *Journal of Transport,* 1933; and *Collectivist Economic Planning,* especially Hayek's "The Present State of the Debate."

[2] See Rosenstein-Rodin, *Economica,* 1934.

[3] See Marshall's *Principles,* Book V; Pigou, *Economics of Welfare,* Part II, etc.

of private profit are sufficient incentives and imply sufficient wisdom to bring such an atomic world into equilibrium. It has even been demonstrated that the private ownership of relatively small plots of land will cause a railway line between two places to follow the "economically desirable" route despite the indivisibility of the line itself.[1] As the theory of value has been extended to cover more and more obscure cases in recent years, it is not unnatural that it has also been used as part of a rationale of the institutions of individual enterprise. But to prove that one set of institutions will achieve a desired end does not prove that no other set can achieve it better. A different set of arrangements and sanctions might very well achieve the same end more expeditiously and more justly than competition and private property. It has been argued that a planned socialism provides just this better way. But it is not with the problems of economic calculus in a planned economy that we are for the moment concerned; rather with the claims made on behalf of private property and competition.

§ 3. It should be apparent at once that the theory of competitive equilibrium can cover only part of the economic field. Any end which cannot be atomised cannot be dealt with by an atomic analysis. Such ends are common. Satisfaction may be derived from the contemplation or enjoyment of a certain set of relations embracing all elements in an economy instead of from the consumption of a physically divisible commodity like boots. The enjoyment of economic equality, for example, means the establishment of an indivisible set of relations between all the human factors of production in so far as they are recipients of final income. Security from disease demands the observance of certain rules and the performance of certain productive tasks designed to create a particular condition affecting all parts of the community. Protection from external aggression—the creation of a state of military preparedness—means that the organisation of the whole industrial system must take on a certain character. The end in each of these cases is a complex and integrated whole.

Such ends cannot be brought within the scope and calculus of competition. It is not, of course, impossible to produce in competitive industries any of the separate commodities required by these ends. Antiseptics and armaments, medical and military services could all be produced by competing firms. But the ends themselves—the total states of the economy—cannot be chosen or secured by individual action. They presuppose a

[1] An unpublished paper by Mr. R. G. D. Allen.

social choice. For their achievement the central organisation and control of economic life is essential.

There is no evidence to suggest that these integral or indivisible or social ends are quantitatively less important than divisible or individual ends.

This limitation to the applicability of the theory of competition is much more severe than it looks at first sight. The arrangement of the scarce factors demanded by the social ends may be in conflict with that required by the individual ends. The end of military preparedness, for example, may require the production of wheat to stand in a different quantitive relation to the production of coal from the relation that would be established between them if, as divisible commodities, they are produced under conditions of uncontrolled competition. It is, therefore, impossible to separate off a sphere of economic life peculiarly suited to competitive organisation while leaving a restricted field for the activity of a central authority or state.[1] The existence of satisfaction arising from the total state of the economy may leave no part of it unaffected. Nor is it possible to dismiss this problem as lying partly within the world of ends. If economics is defined as the study of the arrangement of scarce means with relation to the pursuit of *any* set of ends,[2] it must be relevant to consider the ends which postulate certain relations between all other elements in the economy. The satisfaction obtained from the contemplation of economic justice or the sense of military security is just as much a consumers' satisfaction as the consumption of bread and potatoes. And it arises equally from the distribution of scarce means between alternative uses. Neither production aimed at the satisfaction of such ends, nor the control of the relations between these ends and all others, can possibly be treated by a theory of competitive adjustment. Nor does the existing theory of Public Finance meet the need. The truth is that a theory of competition cannot be made into a theory of general productive equilibrium because it cannot treat certain important types of production at all. For certain types of production the whole ecomony is the relevant unit.

§ 4. Leaving the existence of integral consumers' ends on one side, it can also be shown that even within the restricted sector of production organised in atomic units, the theory of competitive equilibrium fails to justify the institutions of competition.

[1] This implies that the contemporary search for an "agenda for the State" is analytically indefensible.

[2] Professor Robbins' *Nature and Significance of Economics*, passim.

There is, for example, a striking incompatibility between the conditions that make competition possible and those consistent with the best arrangement of resources. An inescapable dilemma lies hidden in the degree of foresight supposed. If one degree of foresight is assumed, the stability of competitive conditions becomes unlikely. If a less degree is imagined, the correct long-period adjustments cannot be made.

1. If we make the extreme assumption that the individual producer acts *as though his output will have no influence upon the market price*, then it is plainly implied that he must remain ignorant of the true long-period relation between output and price. He is unaware, that is to say, of the reaction of his competitors' supply to the change of price which is common to him and them, and also of the effect on market price of their combined change of output. In these conditions it is impossible for industries to make the correct long-period adjustments.[1] If, for example, there is an increase of demand for a commodity, the price received by the competitive entrepreneurs will rise. They will all assume that the new and higher price will remain unaffected by their individual output policy. Each entrepreneur will raise his output to the point on his marginal cost curve where marginal costs are equal to the new price. He will also begin investments in new fixed capital which are justified, and only justified, on the assumption that the new price is independent of his own output policy. On the same assumption new entrepreneurs will enter the industry. But, of course, the market price is not independent of the output of the industry, and the action of the atomic producers taken together will reduce the market price and falsify the expectations upon which output and investment policy were based. Over-investment will be induced, despite the fact that the increase in demand is itself permanent. As long as the degree of foresight is limited to the assumption of a price dependent on the firm's output policy, the value of the estimated marginal product of resources to the individual entrepreneurs must exceed their true long-period marginal product both to firm and industry.

Two sources of possible confusion should be avoided at this point. The over-investment in fixed capital will not be as great as might at first sight appear. When the demand curve first moves to the right the market price will rise to its highest point. But there will be some immediate increase of output involved in bringing marginal costs up to the new price. Market price will

[1] See Mrs. Wootton, *Plan or No Plan*, Chapter III, § 2.

therefore decline from this first high point and investment in new fixed capital will be directed to the short-period equilibrium price and not to the high price that rules the moment after the demand curve has moved to the right. Investment will nevertheless be misdirected. The short-period equilibrium price, which is equal to the marginal cost of output in the existing firms, is still above the price which will rule after the product of the new investment in fixed capital is brought to the market. The final and still lower price will not rule until after the period in which the new investments are completed and the maladjustments irrevocably made.

This is but one example of the confusion and error which must arise if foresight is so limited. For the same reasons, output from competing producers may be increased when demand declines, technical inventions may be over-utilised and cumulative monetary disequilibria generated. The lack of foresight consistent with perfect competition carries with it an appalling blindness of conditioned response.

In the second place, it might be thought that the mere generality of pure competition might prevent the misdirection of investment. This is not the case. A *universal* tendency to over-investment may be checked by the rise in the rate of interest due to the increased demand for new capital. An attempt on the part of all industries to invest more than they should might lead to a correct distribution of the available supply of savings. Indeed if all industries increased their demand for capital in the same degree this would be the case. But it is not *all* industries which are impelled to such investment at each moment of time. On the contrary, only the industries experiencing a present increase of demand will be tempted to over-investment. In a dynamic world, competition of this pure type will induce no tendency to the correct distribution of resources but to a series of over-investment " boomlets " in particular industries.[1]

2. If we turn to the opposite extreme and suppose that individual producers foresee or understand both the true relation between output and market price and the reactions of other producers to price change, it becomes almost impossible to believe that competition itself will be stable. Competition will certainly

[1] For the reality of this process there is much historical evidence. It is, however, difficult to disentangle it from the oscillation of profits attributable to the Trade Cycle. Indeed the tendency for " lack of foresight " booms and slumps in particular industries has often been mistaken for the course of the Trade Cycle—see Pigou's *Industrial Fluctuations*, Chapters VI and IX, Aftalian's *Les Crises Commerciales*, but especially Papi's *Escape from Stagnation*, passim.

not continue in so far as the pursuit of private profit is the major incentive of the competitive economy. The moment that all producers become aware of the nature of the demand function and what determines their rivals' output policy, the advantages of monopoly become obvious. Beyond a certain point the extension of foresight and the pursuit of private gain are incompatible with the preservation of competition. It is not necessary to describe at length the maldistribution of resources caused by monopoly.

3. Finally, it may be asked, is there no habitable half-way house between a lack of foresight so complete that wrong investment is inevitable and an understanding so clear that monopoly practices follow upon the pursuit of profit?

It is formally possible that either (*a*) the representative entrepreneur should realise the relation between the market price and the output of the industry but fail to assess the determinants of his rivals' policy, or (*b*) that he should recognise the forces influencing his competitors but not grasp that relation between total output and price. The second of these possibilities is purely formal. If one entrepreneur realises the influence of price upon his rivals' output he must also apprehend the inverse relation between output and price. But the first condition is quite likely to exist, *e.g.* in many case of imperfect competition. But it is incompatible with pure competition and, in any case, unlikely to yield any very stable or desirable conditions of production. If there are economies of scale to any firm—and there must be unless every firm has correctly assessed the optimum size of its plant and there has been no variations in the conditions of demand since the plant was built—the circumstances are just those which are likely to result in "cut-throat competition." Producers seeking the economies of scale, or eager to maintain them, will cut prices on the assumption that they will sell more—ignorant of the fact that other producers will follow suit for the same reasons. A cumulative downward movement of prices will begin. Each producer is forced to meet the action of his rivals by similar action and by meeting it frustrates it. Again, it is scarely necessary to specify the various types of economic loss involved in the existence of imperfect competition.[1]

A stability of competitive conditions *and* a correct distribution of resources under dynamic conditions can only co-exist in the presence of just the degree and type of foresight which will enable

[1] See Chamberlain, *Theory of Monopolistic Competition*, Chapter II; Robinson, *Economics of Imperfect Competition*; Kaldor, "Excess Capacity and Imperfect Competition," *Economica*, 1935; etc.

entrepreneurs to make correct long-period adjustments and yet fail to appreciate the advantages of monopoly. Such a proposition is purely formal and has no practical meaning whatever. It simply states that if the conditions are such as to lead to the maintenance of equilibrium, equilibrium will be maintained.

The necessary foresight is that which makes each entrepreneur aware of the price and output reactions of his competitors, but leaves him entirely innocent of the knowledge of monopoly profits and the advantages to be gained by combination. Unless he is imbued with an extraneous enthusiasm for the institutions of *laissez-faire,* such a state of mind is impossible. The theoretical analysis of competitive equilibrium is a two-edged weapon. It can be used to demonstrate the impossibility of equilibrium under competitive conditions. Indeed the definition of the type of foresight required makes it virtually certain that competition and the best arrangement of resources cannot possibly co-exist for long.

§ 5. When we look beyond the formal analysis of competition, the idea of a purely competitive arrangement of resources, and indeed the distinction between a system based upon private enterprise and a socially controlled order, becomes unreal. Not only are the conditions of competition unstable, but even within the field of competitive organisation the force of the social will is present at every point. It is not sufficiently realised that it is quite impossible for the system of consumers' wants and preferances *as a whole* to control the course of production. They are at once too varied and too contradictory. No economy has ever existed or is likely to exist without a selection by custom and law of the ranges of atomic wants which are allowed to impinge upon the market at all. It is not simply that certain ranges of preference are declared illegal or criminal,[1] but that the whole of industrial activity is influenced by laws and customs determining at every point the kind of preference which is to be allowed to exert a direct economic force. It is not economic preferences *as such* which determine the course of competitive enterprise, but only those ranges of preferences which have survived some previous and more fundamental process of social selection. Without a detailed insight into the methods and principles of this selection we can construct no true theory of production and exchange.

Examples of the truth of this assertion exist on every hand. The unpaid costs within our present economy illustrate it. Factory smoke is the standard example. It is possible to build a factory

[1] A fact whose inner economic significance is often neglected by those who construct rationales of *laissez-faire* systems.

because cigarettes stand at certain points in the range of preferences of a number of consumers, and because the range of preferences which include the consumption of tobacco is permitted by law and custom to appear in the market. But the same factory is allowed to discharge poisonous fumes into the air and to occupy the only open space in a crowded area without let or hindrance, despite the consideration that the health of hundreds of people will be permanently damaged and that physical health may stand high in the order of consumers' preferences. Why this paradox? Simply because certain ranges of preferences are excluded by law and custom from the cost calculations which determine the distribution of resources. In the same way a speculative builder may plant a house on the skyline of a hill, or in the centre of a stone village, or build a block of offices in the middle of a Regency terrace, because the use of a dwelling or an office stands at a certain position in the scale of preferences of a single individual or corporation. But, in making prior calculations or cost, no allowance is made or need be made for the destruction of natural beauty, the loss of the preferences for harmony felt by thousands of other consumers, nor even for the fall in neighbouring site values. A large proportion of the wanton destruction of our natural and architectural heritage which has characterised the dark age in which we are living is due to the exclusion of these relevant quantities from the scope of market valuation.[1, 2]

[1] These gross abuses are all examples of Professor Pigou's "divergences between marginal private and marginal social net product" (*Economics of Welfare*, Pt. II). The difference is one of emphasis. Whereas Professor Pigou regards them as chance types of imperfection in calculus, I treat them as examples of the universality of collective choice. Expressed in law or custom these deficiencies of costing are due to the exclusion by society of whole ranges of consumers' preferences from economic calculus. They are not allowed to become effective.

[2] Where a piece of building will reduce the values of other sites, it is, of course, possible for the owners of neighbouring sites to join together to buy up the threatened positions and prevent their uneconomic exploitation. There are, however, a number of reasons for supposing that this possibility will be quite powerless to prevent the misdirection of resources:

(i) The fall in site values, although sufficient, if counted into the cost of building, to render the building economically undesirable, may not be large enough to provide sufficient funds for the purchase of the site. In any case such co-operation is costly to arrange and to finance.

(ii) Many of the affected consumers may have only a negligible interest in the site as individuals although collectively their preferences if organised would be overwhelming. This is typical when a "beauty spot" is destroyed. The loss is suffered by a very large number of people in a very small degree. The organisation of these preferences despite their real significance and overwhelming importance is impossible upon a competitive basis. *In any case the absurdity lies in the fact that these preferences and the*

And there are even wider exclusions than these. Let us take two examples :—(1) The abolition of the institution of property in persons has removed from the range of market calculations the relative productivities of investment in human capital. This exclusion has a double result—it creates a bias in favour of investment in physical or non-human factors of production, and it enables entrepreneurs to use up human capital without paying for it. In practice the first of these evils has been corrected in some measure by the growth of public health and educational services. Investment in the improvement of the physical health and intelligence of the working population is financed out of public expenditure because it is excluded from the search for private profit. But its theoretical importance remains. Production and economic calculus are determined at every point by collective decisions.

(2) It is a most characteristic feature of our economy that almost no arrangements are made for permitting *negative* preferences to impinge upon the market. It is possible to pay to see a film and thus to cause such a film to be shown and others like to be manufactured. But it is impossible to pay *not* to see a film and so to prevent its manufacture and display. Yet, to judge by the present agitation in America, there are a large number of consumers in whose range of preferences the prevention of certain films stands high. Thus net dissatisfaction may be caused by the display of the film, although its price more than covers its costs of production. If consumers' preferences *as such* were really the arbiter of productive activity, it would obviously be essential to provide a negative box office at every cinema and theatre where people could pay whenever they wished to prevent the performance from taking place! In the same way it is possible to pay for an alcoholic drink and so to keep a beer-house open. It is not possible for a "total abstainer" to pay to have it closed. Indeed if temperance advocates specify too closely the particular types of beverage or the particular houses of refreshment to which they take objection they are in danger of prosecution for taking part in a "conspiracy in restraint of trade." [1]

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opportunity costs which are associated with them are not automatically charged into the calculations of money cost. They are just as significant as any other type of loss involved by the use of resources for this given purpose. It is quite absurd to enforce compensation for ancient lights at a distance of ten or twenty feet and not enforce compensation for the loss of æsthetic utilities which may affect the happiness of thousands of people at a mile or two miles from the point of offence.

[1] I am not, of course, arguing that these negative preferences should be allowed to operate. They would involve an intolerable interference by some

These may seem frivolous examples, but there is one substantial member of the group of excluded negative preferences. That is the excluded preferences for *security*. Existing society excludes from its cost calculations the preferences of human beings for stability and certainty. It places a premium upon technical change and economic restlessness. There is no machinery whereby the disutilities suffered by all those who are adversely affected by industrial adaptation can be automatically included in market valuations. Yet they are consumers' preferences and as such relevant to the final decision. This is one of the most dangerous weaknesses of the present order.

It is, therefore, certain that consumers' preferences in their own right are not and cannot be the object of economic activity even in a competitive economy. It is only certain ranges and types of such preferences that are allowed to appear in the field, and the selection of the permitted ranges by law and custom is the underlying determinant of the structure of production. It does not matter, for the thesis of this article, whether the choice is good or bad. Most reasonable men would concede that some of the principles of selection are wise and some are foolish. The essential point is that there *is* a principle of selection. The selection is social in origin. It may be consciously or unconsciously taken, but it is taken by society in its corporate capacity. It is not a response to atomistic individual wants. Any sharp logical distinction between individualist and collectivist economies therefore disappears and we are left with the much more difficult problem of choosing the principles of social selection and resolving the problems of economic calculus in a fundamentally collectivist economy. This is the problem of the real world and the further elaboration of the theory of value upon the assumptions of divisible wants and atomistic production can contribute nothing, except indirectly, to its solution. What is urgently required in economic theory to-day is the extension and variation of our institutional postulates in order that economists may formulate and solve the problems of rational calculus in an integrated economy.

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persons in other people's freedom of action. In this case the principle of social choice has been wise. It nevertheless remains that production is controlled in this matter—and must continue to be controlled—by a collective decision about ranges of preferences and not by the preferences themselves.

REVIEWS

Aspects of the Theory of International Capital Movements. By CARL IVERSEN. 8vo. Pp. 536. (Copenhagen; Levin and Munksgaard; London: Oxford University Press. 1935.)

THE major part of Dr. Iversen's treatise on International Capital Movements consists of a critical examination of the views of previous writers. The problems are first surveyed in chapters dealing respectively with the nature, the causes and the effects of movements of capital from country to country. This survey is followed by a consideration of the mechanism of such movements. Here the theoretic side receives first attention, after which a selection is given from numerical data available for testing the comparative merits of the different theories. While, both in the order and manner of presentation of other people's views, the opinions of the author find expression, these opinions are not, in general, pressed on the reader's attention. To assemble them in a manner that would reflect clearly the views of Dr. Iversen on the various points of principle presents a task by no means easy, and one involving a risk of approaching in length the 450 pages devoted to his twofold review of the development of the discussion. It appears, nevertheless, to be well worth while to discover the essayist himself, as well as to profit by his survey of the work of his predecessors.

The title " Conclusions " which he assigns to his final 75 pages tempts the reviewer to seek here the sum and substance of the problem, as seen by a writer who has shown himself to be widely read, to be possessed of a capacity for clear thinking and exposition, and a critical disposition. Even in this section, however, the views of others are accorded a large share of attention, and Dr. Iversen modestly keeps himself a good deal in the background.

The fundamental importance attached by the author to the conception of the process of borrowing and lending as a transfer of buying power puts this aspect of capital movements in the foreground. That buying power in one country is placed at the disposal of persons in another country is, Dr. Iversen holds, the preliminary stage of international capital movements. But it is to be observed that it is buying power in the lending country. The borrowers may, however, secure credit in their own country,

and thus be enabled to exercise buying power there, before the transfer of the goods in which the loan becomes embodied. It is concluded that, with a demand thus increased, prices will tend upwards, for some commodities at least. The question suggests itself whether the buying power exercised by the borrowers in their own country is transferred from some other market or markets in that country to the market in which they employ it. If not, it would appear that the loan transaction has enabled representatives of the borrowers to purchase goods in the lending country, and simultaneously served to finance purchases in the borrowing country, since the advances made in the latter are not obviously limited to the equivalent of the unspent balance in the lending country. It was a shrinking from a possible double counting of one and the same "capital" in this way that led Böhm Bawerk to refrain from adopting Carl Menger's use of the conception of "capital disposal." Dr. Iversen notes that Bawerk did refrain, and regrets the fact, without indicating an opinion as to the adequacy of the reason. Holding the view that banks are able to create buying power, at least temporarily, he found no difficulty in the conclusion that borrowers can eat their cake in their own country while preserving it, for the time being, intact in the lending country.

The process of lending by one country to others may be conceived of as spasmodic or continuous. The nature of the effects of lending, on the lending country, may be quite different in the two cases. Dr. Iversen's commentary contemplates sometimes the one, sometimes the other. In the one case the act of lending creates a disturbance in the regular order of events, in the other an expansion or slackening of the outward flow of loans means a disturbance of the existing organisation. The variation of the hypothesis from one of occasional and irregular loans abroad to one of continuous lending, even if the rate of lending be subject to change, is likely to affect the nature of the reactions on other features of economic life. It is, therefore, desirable to run no risk of confusing the consequences of such different situations.

In so far as international loans serve to finance the export of producers' equipment from the lending country, a particular interest would appear to attach to their effect on the order books of the manufacturers of such equipment. This seems to follow from the consideration that its construction is a process that requires time. While the financing of the construction is a matter of importance, it is not so clear that a transfer, at the time of

placing the order, of buying power to the borrowing country is necessary, whatever may be required when these goods, or some part of them, are ready for delivery.

Further, the absence, from the theoretic discussions of a period in which an important share of the development of the resources of distant countries was undertaken by organisations such as the great chartered companies, of any discussion of a preliminary transfer of "capital disposal" to those countries may not mean a defect in the theories of that time, as compared with our own, but a difference in the character of the processes to be explained by those theories. Even in our time there are not lacking enterprises that carry on overseas development by exports of capital in connection with which no need arises for a preliminary transfer to the recipient countries of claims to goods in general. In fact, the movements to be studied are, as Dr. Iversen points out, movements of particular goods, in which particular prices are involved, rather than of general buying power, with effects on prices in the mass. This consideration will have a bearing on our attitude towards the question of the effect of international lending on the terms of trade.

The division of goods into export goods, import goods and home-market goods, and the calculation of separate indices of price change for each of these groups, is a procedure that appeals, perhaps, less to some English students of economics than to their fellows in other lands. So large a part of the classes of goods, whose price movements have been used in the compilation of indices of wholesale prices in Great Britain, have been simultaneously either export goods or import goods and goods concerned in the internal trade of the country, that a definite and significant distinction of these groups was not very clearly advantageous, even if feasible. There is, however, another grouping that, in the trade between any two countries, may have an important bearing on problems arising in connection with capital movements between them. The prices of a great variety of commodities dealt with in the markets of each of the countries may be compared, and their ratios calculated at the rate of exchange current at the time to which the prices relate. The list will, of course, not include some of those "home-market" goods that are physically non-transferable from one to the other of the countries, not so much because of this physical fact, but because truly comparable commodities of a given general description may not be discoverable in both.

The ratios thus calculated may be arranged in order of magni-

tude, so that at the one end there will be found things cheaper in one of the countries than in the other, and at the other end things that have the inverse relation, the intermediate grades of relative dearness or cheapness being ranged between them. If the goods that are relatively cheap in the one country are cheaper in a degree sufficient to cover all charges of transference to the other country, whether commercial charges, such as freights or premiums of insurance, or fiscal charges, the goods are potential exports from the former country and imports into the other, and inversely at the other end of the series. An increase in the volume of demand from one country for the exportable goods of the other may lead to a rise in their prices that moves them along the scale of comparison towards the position occupied by goods that are neither potential exports nor potential imports. Dr. Iversen, as noted earlier, lays stress on the possibility, or probability, that the changes in demand stimulated by a transfer of buying power from one country to another will not be spread evenly over all markets, but tend to be concentrated on special kinds or groups of products, though elsewhere he appears to assume that the prices affected will be numerous. If some relative concentration of effects be found, it may stimulate a development of the productive organisation dealing with the products concerned that will offset, or more than offset, the consequences of the increased demand, and render export profitable on a larger scale at the former, or even at lower, prices. In such a case, the terms of trade may become more acceptable without becoming more favourable in the ordinary sense in which that word is employed in discussions on the effects of capital movements on the terms of trade.

The discussion of problems of international exchange cannot, as Dr. Iversen points out, be satisfactorily dealt with at certain points by examining the conditions of two countries, or two groups of countries, only. The division of the world into "homeland" and "otherland," or similar categories, does not satisfy him. He does not devote much space to this topic, however, and we should have liked to see his development of some special problems, not merely on the lines of two countries considered as in trading relations and "others" in the plural, but, as possibly somewhat more easy to handle than the case of numerous trading units, the problem of three countries, treating the "neutral" group, as he designates it, as a single country for the purpose of a first examination of such problems.

In commencing an interesting presentation of the thesis that

" a country's aggregate demand for imports and supply of exports is generally highly elastic," our author says, " For each particular commodity we can treat a country's demand for imports and its supply of exports as *surplus demands and surplus supplies*." In his illustrative diagram he represents cases in which an import double as great as the home production, and an export not very greatly short of half the home production, are not treated as calling for warnings that they are unusual cases resulting from a determination to avoid crowding the significant features of the diagram in a manner that would render them obscure. Possibly the use of straight lines, in place of curves of unknown shape, may have tempted him to show, at the risk of an implied typical character, something that might have appeared exceptional with curvilinear graphs, but this is a rash guess and no more. The treatment of such large proportions of a country's supply of a commodity, or of the demand for one of its products, as " surplus " would appear to call for some definition of the sense in which that word is used. One is tempted to inquire whether Great Britain's imports of wheat or of wool represent surplus demand, for example.

Without tracing in detail the argument that follows the phrase cited above, it may be of interest to note that in reference to the effect on the terms of trade between one country and the outside world produced by a transfer of capital to or from that country, our author's conclusion is that " there is a general presumption . . . that the classical theory was right in its conclusion, although the premises on which it was based were inadequate." May this be interpreted to mean that the leading classical writers were possessed of a sound instinctive judgment that saved them from stumbling into many pitfalls? This view has been expressed by earlier commentators, and may profitably be borne in mind by readers of some criticisms of " classical " doctrines in the volume before us. The superiority of " the modern interdependence doctrine of value " over the doctrines of earlier times, repeatedly insisted on by Dr. Iversen, may, perhaps, consist largely in a frank admission of what may have been, more or less unconsciously, assumed as one of the underlying conditions by some of the more competent of our predecessors. The introduction of mathematical modes of expression, as well as of the habits of thought characteristic of minds with a natural mathematical bent, or that have been moulded by a training in mathematics, will account readily enough for the substitution of doctrines expressed in terms of mutual dependence for those expressed in the language of cause and effect.

Another challenge to older modes of thought seems to be implied in the statement, "To the modern transfer theory the movements of gold represent primarily *an actual means of transferring monetary buying power* from one country to another; gold is an *international medicum of payment.*" Why "the modern" theory? Was it not an integral part of the analysis of international monetary obligations at a period relatively distant that, if market conditions in the countries concerned did not render feasible the settlement of a debt by the despatch of ordinary merchandise, gold afforded, at all times, wherever the gold standard or the bimetallic standard was in operation, a means of payment to any desired total, since it could always command a market at a price the variability of which was confined within very narrow limits? This is not more true in "modern" times than in those the doctrines of which are presented in unfavourable contrast with "modern" theories.

Dr. Iversen concludes the volume with a sentence calling attention "to the anomaly that, on the one hand, the general adoption of the gold standard has been a necessary prerequisite to the development of short-term movements of capital on a large scale, and that, on the other hand, these short-term capital movements have become a dangerous menace to the maintenance of this standard." Those, whether in Great Britain or elsewhere, who clamour for an immediate re-establishment of a fixed relation between sterling and gold, might profitably meditate on this anomaly.

In concluding these reflections on some of the topics presented in the thesis which won its author his Doctor's degree in the University of Copenhagen, a word of admiration of the excellent English in which the thesis is presented may be permitted. Even critical readers will rarely be conscious that it is not written in its author's native tongue. The list of works, in various languages, contained in a bibliography extending to eleven pages, forms a useful addition to a treatise, for the issue of which in England the Oxford University Press is to be cordially thanked.

A. W. FLUX

Mercantilism. By ELI F. HECKSCHER. Authorised translation by MENDEL SHAPIRO. 2 vols. (London: Allen and Unwin. 1935. Pp. 472 and 419. 42*s.*)

IT is natural to compare Professor Heckscher's two volumes (first published in Swedish in 1931) with the two articles on "English Theories of Foreign Trade before Adam Smith"

contributed by Professor Viner to the *Journal of Political Economy* in 1930. They represent two entirely independent pieces of work, since the former was in proof before the latter appeared, and Professor Heckscher claims that the substantial agreement between them is a " welcome *criterium veri*." Since, in science, brevity is a virtue, one might be tempted to think that this confession amounted to self-condemnation. If the two versions tell the same story, why should we trouble to read the longer? But such a conclusion would be quite unwarranted. Professor Heckscher has not, so to speak, made a book out of the rough notes of Professor Viner's researches. The length of his treatment is justified by the fertility of his ideas, the originality of his historical interpretations and the accumulation of much valuable material not easily accessible elsewhere. In addition to all this Professor Heckscher's theme differs from that of Professor Viner. In the first place he writes not of England only, but of Europe. Secondly, he is concerned not with theory only, but with policy. Mercantilism, in fact, is to be defined as a phase of European policy. Thirdly, and in consequence of this, his first volume does not deal with economic theory at all, but with economic history, and it is in many ways the better volume of the two.

The phase has no exact chronological limits. It extends from the Middle Ages to the coming of *laissez-faire*, and this period, as the author admits, " begins and ends at quite different dates in the various countries and regions concerned." The identification of the phase, therefore, is achieved by the comparative rather than by the historical method. The characteristics of Mercantilism are declared to be five. The desire for unification, the pursuit of power as an end, protectionism, a monetary theory linked with the balance of trade, and a conception of society. These traits are, of course, more fully analysed as the book progresses, and it is quickly conceded that power cannot be a final end. Mercantilism was equally preoccupied with wealth, and wealth and power were the joint objective of the State, both under mercantile and under *laissez-faire* direction. Unification, too, has frequently been the conscious aim of governments. It soon becomes evident that Mercantilism cannot be identified by its acts alone. Policy has no meaning, no character, apart from its context. The same coincidence of items may recur at different periods, without having the same historical significance. To attach a distinctive name to the policy which pursues national unity and power with the aid of economic protection would be a

piece of unintelligent cataloguing. Policies can be classified only when studied in relation to the situation in which they operate and the theory that inspires them. Professor Heckscher appears to realise this, since he devotes Volume I to the former relationship and Volume II to the latter. But the unity which can easily be found when policy is summarised *in vacuo* seems to lose, rather than to gain, significance as the double analysis proceeds, and nowhere does the author establish a complete synthesis between the three elements, the situation, the ideas and the action, and demonstrate in this synthesis the presence of the unique character which he claims for his subject, Mercantilism. But the value of the two sections of his study remains unimpaired.

The historical chapters describe the disintegration of Europe during the Middle Ages. Barriers to trade increased, tolls were multiplied and governmental powers were surrendered into the hands of private individuals and corporations. But a certain cultural unity remained. Universalism and particularism were the twin foes of the creators of the new States. They were most strongly entrenched in religion and in municipal organisation. How could they be overthrown? The comparison between the policy followed and the results achieved in France and England is the most interesting and daring part of the book. It cannot be summarised here, but the most vital point is the assertion that French policy consistently compromised, utilising and strengthening the mechanism of the old order. The new "manufactures" established under State protection pursued traditional technique and produced high-quality goods for the few. No room was left in town or country for revolutionary developments. The new power was built on the old foundations. But England administered State policy increasingly through State agents, the Justices, until State regulation itself began to wane, and room was left for private enterprise to discover the way to the new industrialism whose task was, by novel and experimental technique, to produce low-quality goods for the masses. England thus won the lead from France. The survey includes an account of the attitude of the Common Law in England to monopolies, which is undoubtedly the best study of this interesting subject yet made. One's comment is simply a reminder that this is a theory of the rise of industrialism, not of capitalism, and that the State, war and luxury cannot be so easily deposed from the eminent position which Sombart has given them in the history of capitalism as a financial and organisational system.

The great merit of the second volume is its careful study of the relations between the Mercantilists and their predecessors and successors. We see the changes of economic theory as an historical process in which are mirrored changes in the structure of the economic system. The interaction is carefully studied. We see that Mercantilism was at once a natural development of Mediævalism and its antithesis, and that the same relationship recurred between *laissez-faire* and Mercantilism. The gradual evolution in economic organisation and technique, and the social systems which they implied, produced a change of policy and theory which the human mind, thinking socially and with an eye to propaganda, represented in the form of a revolution. Speculation along these lines might lead us to suggest that the so-called synthesis in the Marxian dialectic is really produced by the shedding of the forms of thought and action which produced the artificial appearance of a previous antithesis. But Professor Heckscher does not direct our thoughts towards such dangerous generalisations.

It is clear that Mercantilist theory developed an orthodoxy which survived in spite of evolutionary changes in the component doctrines until it suffered a revolutionary overthrow at the hands of Adam Smith. But this orthodoxy, even at its zenith, appears to have been based on a tissue of divergent and even inconsistent theories. Professor Heckscher's ingenious attempts to discover a larger measure of theoretical unity in such concepts as "the fear of goods" are not entirely successful. We are forced to conclude that, even if some Mercantilist writers display a desire to make a scientific analysis as a guide to policy, the majority used theory as an explanatory justification of policies selected for other reasons. But if Mercantilism is a policy only, and not a theory, we cannot deny its reappearance in the nineteenth century. If, again, we conceive it as a certain policy pursued in a certain phase of the evolution of capitalism, we are confronted by the difficulty that different countries show different correlations between such phases and the policies pursued, and Mercantilism loses its general historical significance. In spite, therefore, of his enormously illuminating analysis, Professor Heckscher has not established beyond dispute the validity and the utility of the term which is the title of his work.

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Bibliography of Economics, 1751–1775. Prepared for the British Academy by HENRY HIGGS, C.B. (Cambridge University Press. 1935. 42*s.*)

THE Preface, Introduction and Sources extend from p. vii to p. xxii, the Entries (6,741 in number) from page 1 to 665, followed by an Index of Authors, 667–689, and of Anonymous Titles 691–742. The materials (books, tracts, and sometimes portraits, bank-notes, maps and manuscripts) have been divided according to subject into eleven groups under each year as follows: I. General Economics; II. Agriculture and extractive industries generally; III. Shipping; IV. Manufactures; V. Commerce; VI. Colonies; VII. Finance; VIII. Transport (inland); IX. Social Conditions; X. Topography of Economic interest; XI. Miscellaneous; see p. viii.

The book is a monumental achievement of highly skilled labour unremittingly pursued over the last five years. Each entry of the 6,741 must have required at least a glance at the contents. Who is sufficient for these things? The really "sufficient" is unlikely to give up time to a mere catalogue on such a vast scale. We who enjoy the fruits of his toil are almost ashamed to find such ability and learning beguiled from authorship to our advantage.

Great is their merit who have done this thing. It is fair to use the plural pronoun, for Mr. Henry Higgs himself has acknowledged the ample help rendered to him by his friend Professor Foxwell, who, in the words of Professor W. R. Scott in the General Preface (p. viii), "for more than half a century has devoted untiring energy and unrivalled knowledge to building up successive libraries of economic books . . . and has rescued from oblivion much rare and valuable material, sometimes unique, which would otherwise have been lost to posterity." Mr. Higgs in his Introduction (p. xix) echoes these words approvingly and specially mentions his friend's comments.

It is a *catalogue raisonné* and there are comments and explanations furnished in large measure by Professor Foxwell. Instead of grudging him the space, we are glad to have made him speak out what is in him, too little being allowed (by himself) to come out elsewhere. Take the following on Statute Labour (p. 327, Number 3,283): "People of the Macaulay type regarded such personal services as being relics of feudalism and of course to be swept away. They worked admirably in Somersetshire when I was a boy. We even abolished them in Oriental countries like

Egypt. To pay the taxes people had to go to the money-lender." The note on 3,456 is more contentious, bringing in "Manchester and Cobdenism," but it is characteristic and therefore welcome.

What comes out here is not always grave comment, it is sometimes "gay wisdom," relieving the monotony of entries on currency and much else reckoned in our subject "dry." As it is proposed to continue "back and forward," to include, that is to say, the years before 1751 and the years after 1775, we hope for the same help and enlivenment for the whole.

To Mr. Higgs belongs the credit of putting the material into shape as it lies before us now. His nearest model might be MacCulloch's *Literature of Political Economy*, 1845. The digest into groups of subjects there has a rough similarity to that of the Bibliography. It made a start; but is tiny in comparison and has a different plan. There is too much commentary and the selection is too aristocratic, nothing admitted unless famous for its goodness or badness, whether volume or tract.[1] MacCulloch aimed at a bird's-eye view of economic theory from Locke and the Physiocrats to his own day, in no sense exhaustive for any one period. Our present Bibliography includes even the small fry of tracts (with piquant titles [2]) that showed how people were thinking even when far astray.

The present Bibliography is (humanly speaking) exhaustive for its period of twenty-five years, 1751–1775, for which it gives the economic writing and its near and far kindred, year by year, in the chief European languages. The reader is left free to make his own selection. There is a proviso in the General Preface (p. viii, second paragraph) that the Bibliography "includes such works known to exist, or to have existed, as are deemed for one reason or another to be of sufficient economic interest to justify their inclusion." Whether this rule is severe or not will depend on its interpretation by the Editor, and we may rejoice at the tolerant inclusion by Mr. Higgs of many entries that seem far away from economics, but give pleasure to the most rigid economists in spite of themselves.

Some come near the line of exclusion, e.g., *The Trial of Eugene Aram* (2,093) and the *Literary History of the Troubadours* (6,168), but the case can be argued in their favour. So (much more easily) the case of Thomas Aquinas (5,880). No one

[1] To MacCulloch all publications under 180 pages were Tracts, all over 180 were Volumes. (See the Literature, Preface, p. x.)

[2] *E.g.* No. 872, p. 90: "Low-Life, or One half of the world knows not how the other half lives."

could object to him who had read Sir William Ashley's account of Aquinas in Palgrave's *Dictionary of Political Economy* (Vol. I, pp. 48, 49, new edition). He appears here unfortunately under "Miscellaneous," which tells nothing about him. The naturalisation of the Jews, quite an unpromising subject, fares better (pp. 54 *seq.*), being rightly placed under "Commerce," since it was Commerce made them come and Commerce made them welcome. Poems are not excluded (*e.g.* 5,869, 6,497, 6,659, the last being Shenstone on Wool [1]). Nor are novels (*e.g.* 4,397, *Chrysal, or the Adventures of a Guinea.* It is not clear why Goldsmith's *Vicar of Wakefield* and his *Deserted Village* should not be allowed as well as his Lives of Nash and Bolingbroke (2,832, 5,087).

Adam Smith's earlier works,[2] even the doubtful *Seneca* (410, 1753), are here and the references to him are frequent. His connection with Balliol might have justified the inclusion of Canon Blacow's *Letter to the Principal of St. Mary's Hall in Oxford,* containing a particular account of the treasonable riot at Oxford in February 1747 (published London, 1755, by Griffiths), when Balliol men figured too prominently. The Jacobites had surely as good a right to admission into the Bibliography as Jesuits (2,583, 5,252) and Freemasons (2,412, 2,364). Adam Smith had left Oxford (1746) but must have heard the whole story without much sympathy with the Jacobites. He had a lively sympathy with the agitation for a Militia, about which the entries in the Bibliography might have been more numerous but for the Proviso. Perhaps the same hindrance kept out the curious *Trial of a Student at the College of Clutha in the Kingdom of Oceana* (Glasgow, printed by Jas. Duncan, 1768), giving the saucy reflections of a Glasgow student on his professors, among whom Adam Smith was no longer included.

Of the many tracts on the "present state of affairs" there seems to be one left out: "*Letters concerning the present state of England,* particularly respecting the Politics, Arts, Manners and Literature of the Times" (London, Almon, 1772, anonymous). Chapters XI, XII, XIII, XIV, XV and XIX are strictly economic. A curious inadvertence in the text [3] (4,273) has been corrected in the Index. Another occurs where the Advocates' Library does not get its new title of the National Library of Scotland (1929). There seem to be printers' mistakes in numbers 24, 942 (for *als*

[1] Cf. 5,706 Shenstone on the African Slave.

[2] In the note on p. 195, year 1759, number 1,890, *Moral Sentiments,* the passage mentioned was dropped not after the first edition but after the fifth. The now penitent reviewer once fell into this trap himself.

[3] Anderson for Ferguson.

read *aus*), 3,092, 3,204, 2,542 (for *in* read *ein*), and 6,628. But the book, considering its bulk and variety of languages, is wonderfully free from such. Mr. Henry Higgs has deserved well of us all.

One desideratum is left—a Subject-Index. It means heavy labour and it is not so truly essential as the two excellent Indices already provided. But it makes the book speak to many who have not time to go through it page by page. It may need to be deferred till the Bibliography covers a whole century instead of a quarter of it; but it might be kept in view, to be given if funds admit, for the more general benefit and gain in popularity.

J. BONAR

The Next Five Years: an Essay in Political Agreement. (Macmillan & Co. Pp. 320. 5*s*.)

THERE is undoubtedly a very large body of opinion in Great Britain that is best described as "liberal" or "progressive." Some of it is still to be found in the ranks of the Liberal Party; but much of it is associated with other parties, or with none. A large section of the Labour Party's membership is with it in spirit. So is the "rank and file," such as it is, of "National Labour." It includes a fraction of the Conservatives, and most of the active membership of such bodies as the League of Nations Union. *The Next Five Years* is essentially a collective declaration of faith and policy by this powerful body of opinion. Its imposing list of signatures is drawn from all these groups, and is fairly representative of them, if allowance is made for the abstention of most of the active politicians. Broadly, *The Next Five Years* does fairly well lay down the policy which a good half of the active and intelligent section of the electorate would like to see followed in the immediate future.

But—for there is a but—this policy, about which there is so wide a measure of agreement, has behind it no organised political power. The signatories have set down in this book the matters on which they agree; but they have made no minute as to the forces that hold them apart. If the Labour Party had never developed into a national party seeking an independent majority, if the Liberal Party of 1906 had remained intact up to the present time, the policy here laid down might have stood a reasonable chance of being largely put into force by a Liberal Government. But as matters actually stand it will not be put into force, because it is incapable of being translated into the policy of a Government commanding a parliamentary majority. It is far

too democratic to be adopted by any Conservative, or predominantly Conservative, Government, and far too unsocialistic, and also too unconscious of working-class aspirations and states of mind, to become the policy of the Labour Party. It is very likely the policy that would, if it were put into force, command the widest assent. But it remains in the air, abstracted from current political realities.

A good deal of its positive content is the common form of progressive projecting. A small Cabinet freed from departmental duties, an economic "general staff," some sort of National Economic Plan, a National Investment Board, a National Housing Commission, an extensive scheme of public works to combat unemployment, a higher school-leaving age—these and many more of the domestic proposals have appeared so often in progressive utterances of recent years that their inclusion can be taken almost for granted. The "socialisation" of the Bank of England, coupled with freedom from day-to-day political interference; public control, but not public ownership, of the joint stock banks; more extensive use of the methods of "trade facilities" and "export credits"; better provision of working capital for agriculture; reform of company law so as to secure fuller publicity about the affairs of large concerns and some degree of control over those which have properties of quasi-monopoly; an extension of the number of "Public Corporations" after the model of the L.P.T.B. and the B.B.C.; co-ordination of transport services under tighter public control; more energetic State action towards compulsory reorganisation of depressed or ill-organised industries—all these familiar projects, which are none the worse for being familiar, make their due appearance in this book.

From home affairs the writers proceed to international policy. In this sphere, they write, in strong support of the League of Nations, of fuller use of the powers embodied in the League Covenant, and of collective security and a renewed attempt to promote agreed disarmament. This section inevitably "dates"; for it was written before the Italo-Abyssinian conflict had threatened world peace. But it embodies, fairly enough, what has been said for years past from a thousand platforms on behalf of the League of Nations Union.

Of course, the book is none the worse for not being original. Its aim is not to propose anything new, but to focus agreement on policies already often discussed, but in danger of being put by because there is behind them no sufficient concentration of

political forces. If Great Britain could be governed during the next five years according to the collective will of the signatories to this book, it would be governed to better purpose than it is at all likely to be in fact. It would be guided, hesitantly and with many issues shirked, in a broadly right direction. But can a workable political programme be made on these lines of eclectic reasonableness, on the assumption that, if the Government tackles the questions on which a sufficient measure of agreement can be found, up to the point to which they can be tackled without provoking violent antagonisms, the rest of the social situation will obligingly stay as it is? It might be a good thing if this could happen; but can it happen? Not unless there arises a leadership powerful enough to rebuild the Liberal Party and recapture for it from the Labour Party the allegiance of a large section of the working class; and is that likely? Doubtless, a Labour Government would, in fact, do many of the things the writers of this book propose; but it would do them in a different way, and do with them many other things which some of the signatories would keenly dislike. As an "essay in political agreement" *The Next Five Years* is both interesting and significant. But, even if Mr. Lloyd George throws in his lot with its policy, I see no chance of that policy sweeping the country.

G. D. H. COLE

The Problem of Credit Policy. By E. F. M. DURBIN. (London: Chapman and Hall. 1935. Pp. 267. 10*s*. 6*d*.)

MR. DURBIN has undoubtedly made a manful attempt to tackle the difficult problem of credit policy. He has brought ardour and enthusiasm to his task. For some of his practical conclusions he may well find wide agreement; for the general temper of the whole book there can be nothing but praise, and his concluding appeal that we should strenuously apply our rational faculties to these problems is reinforced by the example he has set.

Part I consists of an analysis of the effects of monetary expansion and of the relation of saving and investment, preparing the way for a "choice of policy," which turns out to be the maintenance of a constant level of money income per head. He considers and rejects alternative proposals for a constant price level and for a constant level of effective circulation (MV). The effectiveness of his own system implies that even in times of expanding output there should be no rise in the general level of money wages and salaries (except on the happy occasions when those types of earner are able to increase their relative shares of

the product). In the real world, however, rises in money wages and salaries are apt to occur, and for his plan to work smoothly he ought to have added a corollary that the monetary authority should by its own fiat be able to disallow such increases. He does indeed in one place (p. 138) begin to consider the view that the objective should be more broadly formulated, so that the monetary authority could take into account changes occurring *de facto* in the " sticky " rates of reward to factors of production. But he is led off this promising scent to consider the view that changes in the prices of primary factors occurring autonomously might be just so great as to allow, in times of expanding real income, a regime of stable prices. He rightly observes that " the possibility of this condition appearing in the real world is extremely remote." But he does not add that the possibility of there being no changes at all is equally remote. This argument against a regime of stable prices can be turned with precisely equal force against a regime of constant money income per head. There is no escape from the fact that neither objective can be relied on to give the right result exactly, and that *de facto* changes of reward must be taken into account if planning is to be precisely accurate. Mr. Durbin argues as if one or other of these cut-and-dried objectives must be chosen and the *via media* were closed to us. But why should it be considered closed ? And Mr. Durbin makes no attempt to show that it lies nearer to his path than to that of stable prices.

The analysis (Chaps. II and III) which precedes this "choice" is perhaps the least cogent part of the book. It suggests but does not sufficiently unfold and reveal some background of cogitation into which the reader is left un-initiated.

Economic analysis is bound to start with some degree of abstraction. The merit of a particular piece of analysis depends not primarily on the correctitude of the chain of reasoning, but on the suitability of the abstractions made. In the course of reasoning alternative possibilities usually have to be considered. But in the case of Mr. Durbin's reasoning these seem capable of such indefinitely extended proliferation that one cannot be sure that conclusions contradictory to those he reaches are not equally probable. Space forbids detailed examination of the arguments. One point may be selected for mention.

Mr. Durbin's great bogey is the expansion of producers' credit. In tracing its baneful consequences he supposes an injection of new money at a particular point of time. He holds that this will cause first an expansion and then a contraction of

the output of capital goods and after the initial period an unsuitable expansion in the demand for consumption goods. It is important to bear in mind that he is making his analysis not to assess the merit of short-run reflationary measures, but in order to determine appropriate long-term policy, in order, in fact, to give rational grounds for the choice mentioned above. But, if this is his aim, it is clear that the supposition of a single injection of credit, or even of a series of such injections occurring after and before a static period is inappropriate. It is to be expected that a single injection will cause a disturbance in the whole system and give rise to a series of fluctuations (as described by Mr. R. G. D. Allen in a mathematical appendix). If Mr. Durbin had supposed a continuous flow of new producers' credits, always constituting, for instance, a constant fraction of the monetary demand from other quarters, he would have reached very different conclusions. He would not have found a consequential oscillation between the demands for producers' and consumers' goods in subsequent periods. For since the antecedent causes springing from the injections are the same for period 2 as for periods 3, 4, or any other, the effects of the injections could not be different in these periods. The disturbances which Mr. Durbin traces are really due to the jolt given by an isolated injection and not to the fact that it is a producer's credit rather than a consumer's credit or any other sort of interference that is operating. This method of attack debars him at the outset from reaching any valid conclusion relevant to the aim of his investigation.

In Part II (" Policy ") the atmosphere becomes clearer. Mr. Durbin discusses the application of his leading principle to various contingencies, he gives an account of the additional factual data which the monetary authority would require—about the ease of attainment and relevance of which he is, however, perhaps too optimistic—and he discusses instruments of control, including bank rate, open-market operations and budgetary deficits. He makes short work of the gold standard in an excellent section. But it is for the last chapter that he reserves his big surprises.

In his view trade recovery can proceed under the stimulants already mentioned a certain way without involving inflation and its aftermath. For him the danger point is reached when the level of prices has been restored to the level of costs, and—though I was unable to make out why these two points must be reached simultaneously—there is full employment in the consumption goods industries, but not in the capital goods industries. Mr.

Durbin's recipe is ingenious and, if his diagnosis of the danger point were correct, would be appropriate. He proposes high taxation which will serve a double purpose. The proceeds are to provide employment for those still out of work in the capital goods industries, while its imposition will *force up the rate of saving*, or, in other words, prevent further increases in the demand for consumption goods, which, since there is already full employment in the consumption goods industries and factors of production are not readily mobile, would produce inflationary conditions there. In due time the authority should arrange for the transfer of resources to those industries (and could then presumably ease off the taxation). Mr. Durbin in effect claims to have discovered a method of continuing expansion after this danger point has been reached without provoking inflation.

The crucial matter is his diagnosis of the danger point. Mr. Durbin is aware that in uncontrolled booms there is an expansion in the capital goods industries that cannot be thereafter maintained in the normal working of the system. But it is by no means clear that this follows in time the attainment of full employment in the consumption goods industries. There is reason to believe that the recovery in consumption itself provides an abnormal and temporary stimulus to investment, and that there will already have been an expansion of investment unmaintainable by ordinary means before full prosperity in the consumption goods industries is reached. On this view the expansion of producers' credit is an incidental by-product and not the cause of high activity in the capital goods industries. Mr. Durbin's bogey is so firmly fixed in his field of awareness that he actually says in one place that there is common agreement among economists that it is the primary cause of the trouble ! (p. 222). His proposal to check consumption at a crucial stage in recovery rouses grave misgivings. It is safe to say that he will not find general agreement for his recipe until he has given a clearer, more convincing and comprehensive analysis of the process of recovery.

Finally, he expresses the view that there is after all much to be said for a regime of stable prices and rising money incomes, and that if this could be achieved without the aid of producers' credits it would be desirable. So he proposes for his long-period policy to supplement incomes by a budgetary deficit. There is little doubt that if he applied the same methods of analysis to injections of government money that he applies to injections of bank loans, he would find the same disturbing oscillations caused. But his proposals are interesting and courageous. The development of

his ideas preceding the composition of this book, to which he makes reference, is significant, and suggests the hope that a final clarification in this field of inquiry is not utterly remote.

R. F. Harrod

Christ Church, Oxford.

German Monetary Theory, 1905–1933. By Howard S. Ellis. (Harvard University Press. Pp. 457. $5.00.)

The reader of Professor Ellis' survey of German monetary theorists, who finds his own task somewhat exacting, cannot but admire the hardihood and endurance of the author. The German and Austrian writers from Knapp to Machlup are passed in review, and their interactions with the Scandinavian, British and American theorists are examined, with unflagging patience, and the book is by no means the compilation of a mere bibliographer, but contains painstaking exposition and criticism of each theory that is put forward.

The first Part deals with theories of the nature of money. Knapp is acquitted of the absurdity of holding that the State determines the purchasing power of money, and the whole controversy connected with his name is clearly shown to have had nothing to do with the theory of prices. It was a branch of metaphysics rather than economics, though it was not conducted with the precision and conclusiveness which it might have attained in the hands of competent philosophers.

Part II, with Schumpeter and Mises, introduces the theory of money in the English sense of the term; Part III surveys the inflation literature, and Part IV examines the cycle theory which came into fashion when the inflation was over. The authors are not arranged chronologically, but are grouped in each section according to the views which they express upon each topic under discussion. This is an arbitrary device adopted merely for the sake of reducing the welter of material to some sort of order. In some ways it is confusing and unsatisfactory, but it serves to bring out very clearly the moral (which Professor Ellis himself does not draw) that the present deplorable state of economic theory is largely due to the habit of economists of falling into "schools of thought" each of which refuses to pay the slightest attention to what the other is saying. The German "Currency and Banking Controversy" of the inflation period provides an excellent example of how an argument should not be conducted. To take one instance, the quantity theorists were distressed by

the fact, triumphantly pointed out by their opponents, that prices rose *ahead* of the increased supply of money, and the only answer they could suggest was that prices rose because the public expected more notes to be issued in the future. This, as Professor Ellis points out (p. 294), is not only a very unplausible reading of popular psychology, but also deprives the Quantity Theory of all its force. On this view, to-day's prices are not determined by the quantity of money in existence to-day, but by the quantity which the public expect to find in existence next week, and the M of the equations ceases to be a measurable entity. Yet the quantity theorists continued to reiterate their theory long after it had dissolved into mist. The followers of Helfferich, on the other hand, would have done well to learn from their opponents to meditate upon the truism that if the effective quantity of money does not increase, prices cannot rise. If the leading writers on each side had shown a desire to satisfy their critics, instead of a determination to shout them down, a solution would not have been far to seek and Professor Ellis' book would not have been so disheartening to read.

Concepts, as well as theories, are kept in idea-tight compartments. The rate of interest, for instance, belongs to the compartment of the business cycle, and is not so much as mentioned in the first three Parts of this book. Professor Ellis quotes no comment upon one of the most remarkable features of the inflation—the fact that the discount rate remained below 5 per cent. into the middle of 1922.

Professor Ellis treats his authors with a mild and unruffled tolerance, equally when he disagrees and when he agrees with their views. For instance, he early convicts Mises of the "crass error of identifying purchasing power and the subjective significance of an individual's money income" (p. 116) and yet continues with unshaken confidence to treat his views as worthy of respect. The same leniency is accorded to ideas as to authors. In an admirable passage (p. 275) he exposes the moth-eaten condition of the purchasing-power parity theory of exchanges, yet cannot quite bring himself to hand it to the old-clothes man, and after showing, with great clarity, that the notion of a natural rate of interest is "vacuous" (p. 307), he continues to make use of it in his own analysis (*e.g.* p. 430). His criticisms are often shrewd but his constructive suggestions in the main are weak and timid. To select and synthesise all that is valid from the mass of conflicting and ambiguous arguments that Professor Ellis has studied with such care, would require a mastery of

theoretical analysis which he does not pretend to possess. A small but significant example of his inadequate theoretical equipment is to be found in a discussion of the theory of exchanges (p. 267), where he blindly follows Mises and other writers in assuming that when one country makes a loan to another the accumulation of capital in the lending country falls below what it would otherwise have been by the amount of the loan. This is clearly a greatly over-simplified view of what occurs. Additional loan payments must lead to a corresponding increase in the foreign balance of the lending country. This may come about in two ways, either by an improvement in its international competitive position through a fall in its exchange rate or an induced reduction in its level of money wages, or by a check to home activity leading to reduction in its consumption of imports and possibly to an increase in its exports. If the first method is sufficient to produce the required surplus of exports there is no need for a permanent rise in the rate of interest of the lending country, and increased foreign investment can occur without any check to the rate of home investment. If this method is inadequate, stability will require a rise in the rate of interest which will bring the second method into play, but there is no reason to suppose that the consequent check to home investment will correspond to the amount of the loan. Only if all the industries of the lending country are already working to full capacity will the rate of interest which ensures stability be the rate which cuts down home investment to exactly the same extent as foreign investment is increased. Professor Ellis fails to emphasise the strange fact that not only orthodox writers but also such a heretic as Hahn (p. 331) assume that full employment is maintained even in the depths of a slump.

But though his own contributions to the advance of monetary theory may not be regarded as of much importance, Professor Ellis' book is of the greatest utility as a guide through the mazes of monetary controversy, and his unspoken advice as to what to read, and what not to read, will be of the greatest service to English readers who are anxious to miss nothing of value in the German literature, but who have no time to devote to unprofitable labours.

JOAN ROBINSON

Cambridge.

Great Britain and the Gold Standard: a Study of the present World Depression. By H. F. FRASER, M.A., Professor of Economics in Swarthmore College. (Macmillan. Pp. 206. 8*s*. 6*d*.)

PROF. FRASER admits that it is impossible to finance a great war without inflation, and that since the war gold has been appreciating in value relatively to other commodities, yet he thinks "it was only reasonable to expect that the inflated price-level of the war period should come down with a return to ordinary business activity," and does not mention the arguments of Dr. Cassel and Mr. Hawtrey that prices should have been stabilised at double the 1914 level—or even higher. He agrees that sterling was over-valued after March 1924 owing to speculative movements of money, yet his only question is whether the pound should not have been "sent to par by credit restriction through raising the bank rate," and the alternative of devaluation to a tolerable parity is dismissed with the jejune remark that this was "ruled out as not compatible with honesty or dignity."

There is no mention of the Genoa resolutions on currency, nor of Mr. Norman's odd evidence before the Indian Currency Commission. The Currency and Bank Notes Act is said to have given us "a simple unified currency system which made for economy in the use of gold" apparently because the new notes "bore the historic promise of the Chief Cashier of the Bank" and because gold coinage was not resumed; but all the criticism of the Act for maintaining obsolete forms, and immobilising the gold required to support the exchange against withdrawals of foreign balances, is simply ignored. And the only reference to the Macmillan Committee's report is a derisive allusion to "the almost plaintive passages in which it was hoped that some people somewhere might do something to raise prices generally about 35 per cent."

The increase of $700 million (43 per cent.) in member bank reserve balances between September 1921 and 1929 is declared to be "the really significant item" in the crisis, as it permitted "the inflation which completely unbalanced American business and made the reaction inevitable," but no figures are produced to show either inflation or lack of balance. Prof. Fraser apparently regards the great increases in total debits, common stock prices and brokers' loans as adequate proof, and makes no attempt to deal with Mr. Hawtrey's arguments against this view.

Price-level stability is said to be "a defective guide to monetary policy" because in periods of falling costs, "such as that of the

past decade," if prices do not fall proportionately, "the way is open for a maldistribution of income which will lead to serious dislocation." Prof. Fraser finds the wholesale price indices unsuitable for registering this inflation, because they are heavily weighted by international trade products, the trend of which was falling, and he therefore resorts to the statisticians of the N.Y. Federal Reserve Bank, who "calculated a rise of about 10 per cent.—in eight years—in the general price-level, which includes a number of items not included in the wholesale index of the Bureau of Labour." But the items in this "general" index that rose were rents and wages, which are inappropriate for inclusion in an index designed to show the effects of changes in the supply of money, and which, moreover, constitute the greater part of the costs that Prof. Fraser supposes to have been "greatly lessened." If he had really wanted a price index of manufacturers there was one compiled by the National Bureau of Economic Research; unfortunately for his argument, however, this showed a fall of 7 per cent. from 1925 to 1929.

According to Prof. Fraser, the maladjustments between producers' and consumers' goods constitute "the very heart and core of the business cycle." He seems to be unaware that the applicability of the Hayekian theory to the crisis rests on the peculiar assumptions that a considerable part of the new investments was not provided by voluntary savings, and that the factors of production were fully employed. But the proportion of fixed capital in the United States financed by credit creation and not out of savings was relatively negligible, about 10 per cent. of the working population was unemployed in the boom year of 1929 and the Brookings Institute's investigation of *America's Capacity to Produce* indicates that there was a general surplus capacity of some 20 per cent. even then. As for the alleged "maladjustments," the Cleveland Trust Company's comparison of the deviations from normal of representative durable and consumption goods shows that these movements have always occurred together, not inversely; and an examination of the rates of change in output of producers' and consumers' goods, 1919–29, by Leon Kuvin in the *Analyst*, reveals no evidence of disequilibrium. Finally, in reply to a criticism by A. H. Hansen and H. Tout, Prof. Hayek has admitted that the idea of "neutral money" may have no significance for practical policy owing to the existence of fixed costs, etc. (*Econometrica*, April 1934.)

Like Dr. Benham, with whom he "faces the facts" several times, Prof. Fraser is outraged by the rigidity of British wage

rates after 1925, and by "the extreme unwillingness to carry through a deflationary policy," for which "the only real cure is the experience of a genuine inflation"! For when the Kredit Anstalt failed, the Bank of England "actually lowered its rate to $2\frac{1}{2}$ per cent." But he does not mention the fact that the New York rate had just been reduced to $1\frac{1}{2}$ per cent., or that the Bank of France had held its rate at 2 per cent. since the beginning of the year. Our failure to "push the rate up to 8 or 10 per cent." in July suggested that we would not make "a real fight for the gold standard," thereby "increasing the panic feeling." Prof. Fraser cannot conceive that such a rate might easily have alarmed instead of reassuring foreign bankers, that it would almost certainly have induced a panic at home, or that it would inevitably have caused a further and more violent fall in world prices. His only reference to the £80 million credits raised by the Government in August is that this "became necessary," but he does not seem to have heard that the Bank had borrowed £50 million at the end of July, thereby giving more conclusive evidence of a desire to maintain gold payments than by any raising of its rate.

What the results of an attempt to "force adjustment" might have been he does not consider, though he refers to the demonstration at Invergordon against reductions in the pay of the Navy. Sir Thomas Allen and Mr. Bevin, whom he attacks for being "willing enough to face a reduction in real wages . . . by inflation," were aware that moderate inflation, like deflation, does not affect the purchasing power of wages to any considerable extent, and they showed a common sense, sadly lacked by their critic, in preferring an improvement in trade and employment to the negligible gain offered by a slightly higher real wage. For it is not "real wages" that those who propose devaluation want to reduce, as he asserts, but wage *costs*—a very different ratio.

At the beginning of 1933, Prof. Fraser noted with satisfaction that "the optimistic expectations based upon an undervalued pound have not been realised," but he compares the figures of foreign trade and unemployment for the first halves of 1931 and 1932 without mentioning that bank rate had been maintained at 6 per cent. for five months ending February 1932, and that it was not reduced below 3 per cent. until May.

There seems to be inversion of statement in regard to exports (p. 124), and costs (p. 178). And there is not much sense in claiming that "over-saving brings on the boom"

when its direct result is to intensify the slump. No index is provided.

GEOFFREY BIDDULPH

The Gold Standard and Its Future. By T. E. GREGORY. (London: Methuen & Co. 1934. Pp. ix + 184. 6*s*.)

The Gold Standard and Its Future has grown in its third edition by two chapters; a concise account of "The Case of the U.S.A." and a useful summary of "The Gold Standard in Official Literature." The earlier part of the book has been considerably revised and brought up to date, and the concluding chapter on "The Future of the Gold Standard" has been rewritten. Professor Gregory maintains his original thesis in the light of the events which have occurred since the book was first published at the end of 1931.

He regards the prevalent restrictions upon international trade as a cause, and not merely as a consequence, of the world slump, and therefore holds that if a monetary conference representing U.S.A., Great Britain, Japan, France and Germany were called at the present time a restoration of the gold standard might be arranged which would by itself promote to a considerable extent a revival of world economic activity.

An Introduction to the Study of Prices. By SIR WALTER T. LAYTON and GEOFFREY CROWTHER. 2nd Edition. (Macmillan. Pp. xiv + 273. 8*s*. 6*d*.)

THE new edition of *An Introduction to the Study of Prices*, which had been out of print for some years, consists of a revision of the original work, with an addition of three chapters: "Prices from 1915 to 1922," "Prices from 1922 to 1933" and "General Considerations." In the last it is argued that, while the need for some mitigation of price movements has become both more obvious and more pressing since the book was first published in 1912, the hope of achieving it is as remote as ever. The charts and statistical tables have been brought up to the end of 1933.

The Burden of Plenty. Edited by GRAHAM HUTTON. (London: Allen and Unwin. 1935. Pp. 157. 4*s*. 6*d*.)

THIS is a series of talks organised by the B.B.C. last winter considering the nature of the "Economic Problem," now published in book form, edited by Graham Hutton, who has also written an introduction and a conclusion and brief commentaries at the end of each chapter.

The contributors are economists of varying standpoints, agreeing only that the problem is a very concrete one and that the capacity to produce greatly exceeds actual consumption and that the solution is not to reduce the Plenty. Mr. Henderson, Mr. Brand and Prof. Robbins agree in wishing for the removal of artificial checks to international intercourse and a return to freer enterprise. Sir Arthur Salter believed in modified planning, in a "purposive direction," *i.e.* State control of the main branches of production and a National Investment Board. Mr. Orage is a protagonist of Social Credit, and Mr. Hobson upholds the Underconsumption theory. Mr. Dalton, from the point of view of a social reformer, and Mrs. Wootton, demand more radical changes and advocate a planned state, such as exists in Russia.

The book is intended, as were the talks, to appeal to the reader with no technical knowledge of the subject. Though the style is at times irritating, the exposition of the problem is clear and stimulates thought. It would be useful for purposes of teaching in schools, adult classes, and the like.

Europe's Crisis. By André Siegfried. (Jonathan Cape. 1935. Pp. 128. 5*s.*)

In these days "crisis" is a much overworked and sorely abused word. The Concise Oxford Dictionary defines crisis as "a turning-point," or, again, as "a moment of danger or suspense in politics, commerce, etc." M. Siegfried has quite unjustifiably applied this term to certain ultimate or long-period tendencies which he discerns in the world to-day. The fate of Europe is for him, as for the rest of us, shrouded in uncertainty, and he calls this state of uncertainty "Europe's crisis."

The main thesis of this little book is that the long-standing hegemony of Europe (M. Siegfried is nowhere very precise as to the sense in which Europe is to be regarded as a homogeneous entity) in the world is threatened by the growth of American influence on the one side and by the rise of Japan and the coloured races on the other. What future, he wonders, has Europe in a world ridden by economic nationalism, repudiating the international division of labour, and developing different values from those for which Europe has stood in the past? He does not attempt to answer the question thus posed, though he suggests that "Europe's" fate need not be too black provided that "she" remains true to "her" own sense of values and does not attempt to imitate America or the East.

The foregoing summary does not perhaps sufficiently indicate

the fact that the argument is almost entirely based on economic considerations. Unfortunately M. Siegfried simply has not the equipment to achieve anything of constructive value in this direction. His economic knowledge, as here revealed, does not go beyond the superficialities of the journalist—a very intelligent journalist, it is true, with all the lucidity and grace of the Latin mind, but none the less a journalist.

On the one side he leaves untouched many of the problems which an economist, looking ahead, would most want to discuss—even in the non-strictly economic field there are glaring omissions, such as the ignoring of war within Europe (as distinct from the economic consequences of the last war) as a factor in the situation. On the other side, he adopts a completely uncritical nineteenth-century attitude towards such economic issues as he does discuss.

It would, of course, be absurd to complain of not getting a learned treatise when what is offered is a very short essay on a wide subject. But M. Siegfried's real failure lies in the fact that, in his rôle of questioner, he has not known what were the right sort of questions to ask.

C. W. Guillebaud

St. John's College,
Cambridge.

Controllo delle materie prime e derrate agricole. By Mario Ottolenghi. (Firenze: Casa Editrice Polegrafica Universitaria. 1935. Pp. 250. 20 *lire*.)

Signor Ottolenghi has collected a large amount of information respecting the measures adopted in recent years for the control of a number of raw materials—rubber, sugar, coffee, wheat and cotton.

His information is derived largely from the published works of Mr. Rowe and other authorities on the subject, and there is not much evidence of independent and original research. However, his book has the merit of tracing back each of the schemes to its origins and of placing it well in its broad setting. If this work cannot be said to add anything of note to the problems it discusses—and least of all on the theoretical side—it does bring together in a convenient form the available facts drawn from a large number of different sources, and presents a coherent and clear narrative of the evolution of the various schemes of control.

C. W. Guillebaud

St. John's College,
Cambridge.

Die Grenzen der Wirtschaftspolitik. By OSKAR MORGENSTERN. (Vienna: Julius Springer. 1934. Pp. 134. *RM.* 4·80.)

THE purpose of this work is to set out to a wider circle of readers the relations of economic theory to economic policy; the extent to which theoretical research can be made the basis of State policy. In the main, Professor Morgenstern presents a well-known point of view. Economic theory, he emphasises, is "neutral" between different ends, consequently no conclusions as to the desirability or otherwise of particular economic policies can be derived from the body of theory as such. Neither Liberalism nor Socialism—"the two rigid systems of *Wirtschaftspolitik*"—can properly seek support from the laws of economics; since both are implicitly based on some kind of value judgment. (Professor Morgenstern carefully dissociates himself from any advocacy of *laisser-faire* based on the ground that an optimal distribution of resources is achieved by the automatism of the free market; those results which the market mechanism tends to bring about are also only desirable in relation to particular ends. The only presumption in favour of *laisser-faire* is based on *negative* grounds: that under a regime of economic freedom the State is less liable to make mistakes.) What economic theory, however, can do is to examine particular economic policies with respect to their consistency; whether the various actions of the State are not self-contradictory, and whether the aims which the State simultaneously pursues are such that they are simultaneously attainable at all. Consistency of ends and consistency of the means adopted towards these ends are thus the sole criteria of approval by the economist. His own position is best summed up towards the end of the book (p. 127):—"It should not be expected from the scientists that they should formulate programmes—this is the task of the practician—but the programmes formulated should be submitted to the scientists' examination and opinion, so that they should be able to say what there is to say about them from the scientific side."

In later chapters the author examines in more detail the inherent difficulties, partly economic, partly sociological, which confront any sort of economic policy aiming at consistency. All State action has indirect as well as direct effects; these indirect effects are generally diffused, and therefore in any case less perceptible than the direct effects; they also require a longer period of time to exert their influence. For these reasons they

tend to be ignored by the very authority which is responsible for them; and thus Governments are continuously found adopting measures which, on balance, have opposite effects from those at which they are consciously aiming. Moreover, there is a cumulative tendency towards such interventions of the wrong kind in the modern State. The parts dealing with this problem, where the author is obviously drawing upon his own Central European experience, are perhaps the most interesting in the book. Sectional interests—" industries "—tend to organise themselves into associations which can exert an influence over the State out of all proportion to their real importance to the community. The fact that the favourable effects of whatever action they demand are generally immediate and concentrated (thus more perceptible) makes the State—always bent on creating a favourable impression of its " activity " on public opinion—all the more liable to succumb to them. Even if *all* sectional interests become thus organised and are all represented on " Economic Councils," it would be idle to suppose that they hold each other in check. On the contrary, for strategic reasons, they generally prefer their own opposition to any particular measure to be bought off by securing the consent of other groups for further protective measures for themselves. The State thus inevitably tends to become the prey of sectional interests; its own actions tend to be determined by a bargaining process of outside groups.

Professor Morgenstern ends up by a chapter consisting of a spirited attack on the " vulgar economists ": people with inadequate theoretical training representing themselves as experts, whose growing influence is partly responsible for the enormous sins that have been committed. They are the true enemies of economic science; it is their activity which discredits economics in the eyes of the public and causes the warning counsels of responsible economists to be ignored. Any future improvement in the standards of State economic activity presupposes their disappearance from public life.

All this, of course, must be heartily endorsed. Yet it is questionable whether the disillusioning and depressing effect this book must inevitably leave behind on the mind of the general reader, to whom it is primarily addressed, necessarily follows from its subject-matter. Professor Morgenstern's book, in a sense, is little more than an agglomeration of warnings; and recent experience certainly suggests that of warnings one can never have enough. But warnings are generally more effective

when accompanied by positive guidance; and when it comes to "do's" rather than "don't's," Professor Morgenstern has little to convey. A long chapter is devoted to the "Besonderheiten der Konjunkturpolitik"; it apparently aims at demonstrating what kind of trade cycle policy an economist could approve of; yet practically the only advice which he is able to tender is that State budgets must not be allowed to expand in boom times and should be rapidly contracted during depressions.[1] He seems to be very sceptical about any kind of price-stabilisation schemes, in fact of any kind of monetary policy designed to stabilise trade; and his opinions frequently take the form of *obiter dicta* in cases where he is touching on scientific issues which are still highly controversial.

Professor Morgenstern could reply, and in fact he frequently reminds the reader, that this "negativeness" necessarily follows from his own unassailable methodological position. No doubt theory is "wertfrei"; economics as such cannot determine what the State should do. But might economists not *postulate* certain ends in the same way as economic theory postulates the presence of certain conditions? So long as the politicians and the public remain as vague and inarticulate about the ends they aim at as they now are, and so long as they are so ignorant about the effects of different methods, it is not enough for the economist to wait until proposals are submitted to him for examination. It is his duty to show the ways in which a constructive and consistent State policy can be achieved—at any rate when he believes, like Professor Morgenstern professes to believe, that wisely chosen State intervention can increase economic welfare and not merely diminish it. One of the reasons why Governments are so liable to succumb to illicit temptation and adopt interventions of the wrong kind is because they know so little of interventions of the right kind. It would be unfair to say that economists ("of the right kind") never propose, or advocate, anything; but they rarely take the trouble to go beyond the most preliminary stages. No doubt, to the extent to which economists lend themselves to the advocacy of concrete proposals, they imperil the supreme authority of economics as a science. But, as Professor Morgenstern assures us, this authority is already at a very low ebb, owing to the activities of "vulgar-

[1] He even suggests that from an economic point of view, the authoritarian State might be superior to a democratic one; since the latter, by its inability to reduce the budget, generally prolongs the depression: "a conclusion which follows as a matter of course from an examination of the present conditions in Europe" (p. 130). I wonder of which countries he is thinking?

economists." It is unlikely to rise again merely by adopting a still more reserved attitude towards public affairs.

NICHOLAS KALDOR

London School of Economics.

Statistical Confluence Analysis by means of Complete Regression Systems. By RAGNAR FRISCH. (Oslo: Universitetets Okonomiske Institutt. 1934. Pp. 192.)

THE term *confluence analysis* is used by Professor Frisch to describe the treatment of a statistical problem of great importance in the economic field, the problem of determining from actual data what linear or other relations exist in a given set of variable quantities. We have here a problem of "significance" and two different aspects must be carefully distinguished and considered. There is, firstly, the question of the significance of the variables themselves as regards their inclusion in, or exclusion from, the relations to be derived, and, secondly, the question of the significance of the coefficients in the relations when derived, taking account of the fact that random disturbances are present in the data. Tests of significance in the second sense are familiar enough throughout statistical analysis, but it is useless to apply them to the present problem until the significance of the variables themselves has been established. And it is in this respect, as Professor Frisch points out, that all statistical inquiries of the kind considered are to be found wanting.

Having decided to connect the variables of a given problem by linear relations, we then have to determine whether the relations obtained from the data include all the systematic influences and nothing else. If too few variables are included in a linear relation, then the coefficients of the relation (found by a regression method) have a systematic bias and the effect of some relevant variables has not been disclosed. On the other hand, if a greater number of variables is included, it may happen that there exist, not one, but two or more linear relations between them. To fit a single linear regression to the data is then a meaningless procedure and any results obtained must be fictitious.

The main problem of confluence analysis is thus to find just those variables, out of the total number possible, which can be related significantly by means of regression equations. In the present work, Professor Frisch has succeeded in elaborating what is undoubtedly a comprehensive and reliable method of tackling this problem. His method depends on ideas which are essentially

simple and reasonable and it can be applied without much difficulty. The drawback of the method is that the necessary numerical work, even with the technique developed and described by Professor Frisch, is exceedingly heavy when more than two or three variables are related. This is inevitable from the very nature of the problem.

The theoretical basis of the method has not yet been fully worked out by Professor Frisch. He gives, however, a theoretical development which provides some support for the method he recommends and also includes an account of other possible criteria of significance. In the course of this development, many interesting side questions are considered and statisticians should notice particularly the conditions under which different regression equations represent the " true " regression and the relation of these conditions to the " least squares " method of finding regressions from actual data (pp. 65–70).

Economists will be mainly interested in the application of Professor Frisch's method to American consumption data with a view to the evaluation of the " marginal utility of money " (pp. 147–69). Using the construction described in *New Methods of Measuring Marginal Utility* (1932), Professor Frisch obtains results which are clearly inconsistent. This failure leads him to consider the possibility of substitution in consumption and to suggest a method of allowing for substitution effects. This is not the place, however, to discuss the validity either of the construction as a whole or of the particular method of allowing for substitution. A complete account of the work done for Professor Frisch and his associates in this field is reserved for separate publication, and criticism at this stage would be untimely.

R. G. D. ALLEN

London School of Economics.

Are Trade Unions Obstructive? An Impartial Inquiry. (London: Gollancz. 1935. Pp. 349. 5*s.*)

THE six inquirers are Professor Hilton, Dr. J. J. Mallon, Mr. S. Mavor, Mr. Seebohm Rowntree, Sir Arthur Salter and Mr. F. D. Stuart. This is an impressive committee, and obviously well qualified for the job which they set themselves, namely, to ascertain the facts underlying the common allegations concerning obstruction in the industrial machine created by trade-union stipulations as to the conditions of employment in industry. " To ascertain the facts, present them, ponder them and comment upon

them was the one and only purpose of this inquiry," and it may be said at once that the committee has faithfully kept to this purpose. A group of thirteen representative industries was selected for study: the building, coal, cotton, docks, electrical, engineering, furniture, glass, iron and steel, printing, railways, shipbuilding and woollen and worsted industries. The method of inquiry in each industry was, first to examine the existing collective agreements, secondly to interview the employers' organisations, and thirdly to present a statement of the employers' case to the trade unions for comment and to interview leading union officials. The method of inquiry was thus uniform in each case: the method of presenting the results is equally uniform. Each of the chapters on particular industries is divided into four sections: the first is a survey of such general facts concerning the industry as are relevant to the inquiry; the second sets out the employers' point of view; the third gives the trade-union reply, and the fourth is a short summary by the investigators. In each case the second and third sections are divided into three sub-headings: recruitment and utilisation of labour, hours and wages, and general conditions affecting output and efficiency. (It may be observed that the general level of wages is excluded from the investigation, and wage issues are confined to particular rates out of all relation to rates in comparable occupations.) These thirteen chapters on particular industries are preceded by an explanatory introduction, and in the last chapter the committee draw their own deductions.

It is easy to criticise this book fairly and unfairly, reasonably and unreasonably. But after due reflection, one reader at least feels dissatisfied with the general results, though at the same time grateful for what has been achieved, especially in view of the formidable difficulties of the task. The chapters on particular industries supply a good deal of useful data, of which students of industrial relations have so far been aware only in rather vague forms, lacking definition and concrete reality. But there is little attempt at quantitative measurement of the problem in these particular industries, though it is shown that the amount of union obstruction varies greatly, as of course does its character. Everyone knows that in certain industries trade-union obstruction exists: what we want to know is whether its amount is worth bothering about, and if so, how it can fairly be eliminated. Here the summary nature of the investigations yields us little, though some, help: to give just a single example, a total of about two pages in several fragments on the more looms issue in the cotton

industry is unlikely to take us very far, and it naturally does not. Moreover, the case for a wide but summary survey must rest upon the value of the generalisations obtained; but here is the greatest disappointment of all. The moral is not that the investigations were worthless, still less unnecessary, but that they were not pursued in the right way and/or to the requisite extent. This book indeed emphasises the great difficulties of collective research even by the most distinguished and individually well-qualified persons. Nevertheless, we must be grateful to the committee for providing us with a good deal of useful data, which is not to be despised, and for providing some future student of the subject with a good jumping-off ground.

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Cambridge.

Social Administration, Including the Poor Laws. By John J. Clarke, M.A., F.S.S. (London: Pitman & Sons. 2nd Edtn. 1935. Pp. lxxvi + 776. 15*s*.)

The extension of the social services is by common consent one of the most remarkable developments of our age. It is the more remarkable in that this mass of State intervention, State assistance, and communal provision has been carried out in the main by Conservative and Liberal Governments—though partly, no doubt, under Socialist pressure, partly perhaps with the object of "dishing the Socialists." Those who oppose it on principle to-day are but a tiny minority—diehards of the Charity Organisation Society, eugenists who bewail the fostering of the unfittest, economists who see in unemployment insurance not what the late Lord Melchett called "a bulwark against revolution," but an obstacle to wages going down as and when they ought to. A much larger number, of course, are uneasy on financial grounds, and will continue to advocate the cutting down of the cost of the social services or to resist their extension. And there are Socialists, too, who look askance at demands for more and more eleemosynary Socialism. But the social services, as Mr. Arthur Greenwood says in his foreword to Mr. Clarke's book, have become an integral part of our national life; and no one seriously imagines that the tide has yet reached its full or that it can be stemmed. There are new developments such as Family Endowment (which has already been established in several other countries), and there are reforms in existing services, *e.g.* Health and

Unemployment Insurance, which, under one Government or another, will assuredly be put on the Statute Book in the not distant future.

Mr. Clarke's book is the first attempt, he claims, to bring together in one volume all the social services, major and minor. Its largest section, covering some 250 pages, deals with the Poor Law and Public Assistance, and is a revision of an earlier work published under the same title some years ago. Other chapters are devoted to public health, housing and planning, child welfare, the feeble-minded, Factory Acts, Trade Boards, unemployment, insurance and pensions. There is an excellent index and a useful, though not quite so good, bibliography. In his account of the law and practice Mr. Clarke maintains a high standard of accuracy. He is not up-to-date in every detail (*e.g.* he does not deal with the fiasco of the Unemployment Assistance Board over the Means Test, or with the London County Council's new system of administering public assistance). But for this he clearly cannot be blamed; the world will not stand still when an author goes to press. What perhaps does lay him open to some criticism is his ambition. He does not confine himself to an account of things as they are; he goes far and wide into history and theory. This in general adds to the value and interest of the book, and some of it indeed is necessary. But it involves a lot of close "potting," and, able potter though he is, Mr. Clarke is not invariably successful. His outline of the development of the Poor Law, for example, is good; decidedly less good are the paragraphs in which we are taken back to the origins of Roman law (and in which incidentally we come upon the odd statement that "in the history of the Greeks there may be discerned traces of human philosophy"). Some of this, or of the compendium of economic theories that we get in another chapter, might surely be spared to make room, say, for more detail on a matter like the Agricultural Wages Boards, which are inadequately treated. But the defects of the book weigh light against its qualities. Used judiciously, as the basis of, and not a substitute for, deeper study (Mr. Clarke would be the first to agree about that), it will be invaluable to the student of social administration. And its comprehensiveness and clarity should make it a first-rate reference book alike for the professional and the layman.

C. M. Lloyd

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The Thrifty Three Millions: a Study of the Building Society Movement and the Story of the Abbey Road Society. By SIR HAROLD BELLMAN. (London: Macmillan. 1935. Pp. xii + 357. 5*s*.)

Building Society Practice. By G. S. RILEY, B.Com. (London). Foreword by SIR ENOCH HILL. (London: Macmillan. 1935. Pp. xvi + 228. 10*s*. 6*d*.)

THESE two books deal with different facets of the Building Society movement. Sir Harold Bellman is concerned with its general growth, which has been specially marked since 1918, and with the big part the societies have played in dealing with the post-war housing problem. His book is published to commemorate the centenary of the Abbey Road Society and so combines a history of this Society with a general treatment of the development and present structure of the whole movement as Mr. Riley is concerned to fill a particular gap in building society literature, since "so far no serious attempt has been made to set out in detail the organisation and working of a modern society."

One difficulty in dealing with such a movement arises from the number and variety of individual societies. Mr. Riley meets this on the whole satisfactorily by describing a representative society and indicating the chief differences between the various types. Sir Harold Bellman is perhaps also a little inclined to imply that the methods and practice of societies like his own are more typical of all than may in fact be the case. He rightly stresses the value of the movement as a form of "directional" saving for a particular purpose, whereby not only the savings, but the use of them, is organised, thus eliminating or at least minimising the lag between saving and investment. Post-war years, moreover, have given the movement special opportunities; and, more recently, the world depression has diverted to it an abnormal flow of savings owing to stagnation in many of the usual fields for investment. Sir Harold indeed is specially interesting when he deals with such changes as the growing importance of the investor as compared with the borrower. "The borrowers in a building society are in most instances little more than nominal members. . . . Instead of all members being expectant borrowers . . . the two classes are now distinct, the investors usually outnumbering the borrowers and monopolising the profits." Moreover the societies are now attracting a more substantial type of investor who uses them not to acquire a house, but as a form of investment, and the rates of interest paid and the security, especially against capital depreci-

ation, make the societies extremely helpful to this type of investor.

One result is that relatively little is said of the borrower. The author stresses the interests of investors and depositors, and this may also be the policy of the societies. It is suggested, for instance, that by lower interest rates the societies could have extended home-owning even more than they have done. Sir Harold defends their policy on this and other matters. British interest rates, too, seem lower than in the Dominions and foreign countries. But the evidence that the societies have had to restrict investments from time to time suggests that a policy of lower interest rates might have been practicable and advantageous. It also seems possible that the societies ought to do more to advise borrowers regarding the price and quality of the houses which they purchase than they do in the ordinary course of protecting their own investments. Mr. Riley indeed seems to favour a non-committal attitude towards requests for advice on matters of price. But it might be suggested that the societies make more active use of their expert knowledge to help their borrowers and so contribute more towards raising the standards of housing.

The concluding chapter of Sir Harold Bellman's book deals with the progress of building societies in the Dominions and foreign countries. He does not generally make any direct comparison with British practice, but gives sufficient information to enable the reader to do this for himself. Some of the differences are interesting and significant. There is also a useful series of appendices.

Mr. Riley's aim is primarily to describe actual practice. His treatment is mainly based on the work of the chief departments of a building society with special chapters on Audit, Income Tax and the use of machinery. He gives a useful description of Building Society Law. Generally speaking he limits himself to description and eschews criticism, but there is an able short criticism of possible lines of policy in dealing with branches and agencies. His book should be specially useful to small or newly-formed societies and to branch and other subordinate officials.

N. B. Dearle

The New Survey of London Life and Labour, Vol. IX. Life and Leisure. (London: P. S. King & Son, Ltd. 1935. Pp. xiv + 445. 17*s.* 6*d.*)

This closing volume of the New Survey of London breaks fresh ground because it " passes from the study of Londoners as

earners, spenders and consumers of material commodities to the survey of their pursuits of leisure, using the word in its broadest sense." This fact itself indicates real progress since the Booth survey. For improvements in standards of living and the shortening of the hours of labour have given the Londoner both increased leisure and the means to use it. But, as the introduction points out, leisure in the widest sense includes the various opportunities for spiritual, intellectual and cultural activities. Pessimists, indeed, have doubted whether, given the leisure and the greater resources, there existed the education and culture to put them to good use. Others questioned whether there was the necessary institutional equipment. But, happily, the demand has created the supply. The development of educational institutions and of scouts and clubs and the rise of new interests followed the increase in material well-being.

The reasons for this are various. The growth of education has itself created an urge for better things. There has been much work and planning to this end both by public authorities and by voluntary agencies, and their concurrent expansion may be noted. Further, one of the greatest evils of poverty is the narrow range of interest and the monotony of life that it involves. So the desire for higher things was often latent and waiting the opportunity for satisfaction. And important new interests, provided often by private enterprise, were growing up, like the two great organisations of the cinema and the wireless, whilst cheap travel has done much for the hiking and holiday habits. But although both provision for the new needs and the will to use them were at hand, neither is by any means complete and there is still much to do. Scouts and clubs, for instance, are by no means able to provide all the requirements of the adolescent. Often, indeed, they are least adequate in the poorest boroughs and districts, though Stepney and Bermondsey seem to be well provided for.

This closing volume worthily crowns the work of the Survey, and, like its predecessors, is written with real sympathy and understanding. The Director's introduction is, as always, admirable and he has successfully woven into a unity the contributions of a team of writers of character and individuality. All have done good work, though naturally the level of quality varies. Certain matters, indeed, like the records of various institutions, permit of less graphic treatment than do others.

The body of the book is divided into four parts. The first deals with the Pursuits of Leisure, which include adult education. The chapter on Holidays and Outings illustrates very well the

existing conditions. Many workers enjoy holidays with pay. But many do not, and all of those who do cannot afford to take their holiday away from home. "The proportion of working-class adults who regularly enjoy a holiday away from home is a good deal lower than that of their children." "Social Organisation" (Part II) covers working-men's clubs and provision for adolescents. This last includes an interesting description of the social and geographical distribution of the various organisations. The third Part, on Indulgence and Delinquency—drink, gambling, sex-delinquency and crime—is perhaps the best of all and is written with real sympathy. "It is interesting to note," says the Director in the Introduction, "what a small part is directly played by poverty in the causation of vice and crime." Mr. S. D. Ruck discusses some new and valuable information in the chapters on crime and suggests that "dynamic" poverty, due to falling income and unemployment, is a more important influence than the "static" poverty of low income. But the narrowness of a life of poverty and its lack of interests are found to be important contributors both to the drink habit and to the gambling which appears to be taking its place, and they exert their influence on sex delinquency. The final Part contains two interesting series of workpeople's diaries—one by railwaymen who represent the more regularly employed workpeople and the other by six Bermondsey housewives.

The Director's final judgment is one of hope, whilst he sees no grounds for complacency. Progress has been great, but has only been won by the "sustained and unrelenting struggle" of human good-will against the forces of disintegration. This progress too is in comparison with the low standards of forty years ago, and much vice and crime remain. "The forces of good-will have on the whole been gaining; but the issue is still undecided and any relaxation will spell disaster."

N. B. DEARLE

The Essential Factors of Social Evolution. By THOMAS NIXON CARVER. (Harvard University Press; London: Humphrey Milford. 1935. Pp. 564. 21*s*.)

THAT Professor Carver has long been interested in sociology as well as in economics is well known. This book, he tells us, is the fruit of forty-two years' reading, during which time he tried, unsuccessfully, to keep pace with the output of "what may be called the Sociological Press." Such a statement, coming from an eminent economist, naturally raises high hopes, since those

who have so thoroughly combined the two disciplines are rare. But something has gone wrong. Perhaps Professor Carver has given too much time to books claiming in their titles to be "sociology," and too little to the researches of historians, lawyers, anthropologists, psychologists and others, which are the real stuff of which sociology must be made. For his reading has left little mark on his writing, except in those passages where he summarises past theories. The rest of the book might have been written by any ordinarily well-informed observer of society with the aid of personal experience and common sense.

To attempt a study of social evolution without employing either an historical or a comparative method would be sheer madness. Professor Toynbee is engaged in showing us what can be done when these methods are used. Professor Carver has worked on entirely different lines. What he has given us is merely an analysis of contemporary society tacked on (to quote the publisher's note) to "the idea of survival value as the leading factor in the evolutionary process." Although no attempt is made to verify this important assumption, it is treated, not as an hypothesis, but as a truth to be expounded. Society, says Professor Carver, is like a team "which plays a perpetual game called 'the struggle for existence,' and the stake is the survival or extinction of the team." And again, "evolution comes because the less adapted fail and the more adapted succeed. Up to the present moment, practically every social reform is a blind but determined fight against the only theory of evolution which has any scientific standing." If this idea is to be of any use in a study of the growth of civilisation, it must be applied, not to groups of men, but to ways of living, to customs and to institutions. It is, then, obviously impossible to assert that those institutions survive which are best adapted to the needs of society (is this true of war?); we can only say that survival implies adaptation to *some* needs, performance of *some* function. In this form the idea becomes a useful warning to the investigator, not a clue to the process of change.

The analysis naturally suffers somewhat from the constraint of this unhappy alliance, but it often manages to shake itself free and becomes on occasion adequate or even illuminating, as, for instance, in the discussion of self-interest. But it has its own defects. It is, as a whole, casual, unsystematic and discursive. The good things are embedded in a mass of platitudes and half-truths. The good things occur whenever the technique of biology or economics can be brought directly into play. The

author does not seem to have realised that the analysis of social structure requires a technique of its own. It is a misapprehension for which sociologists are themselves largely to blame.

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Law and the Social Sciences. By HUNTINGTON CAIRNS. (Kegan Paul. 1935. 12*s.* 6*d.*)

THIS book is a painstaking review of "the possible contributions of five social sciences to the legal process." The sciences selected for consideration are Anthropology, Economics, Sociology, Psychology and Political Science. A separate chapter is assigned to each; and the reader is, in each case, conducted through an examination of the possible bearing of recent discoveries and conclusions upon the making and the administration of the law. Now, there are two obvious ways in which the conclusions of these sciences might influence the law. They might, in the first place, influence legislation itself; and, secondly, they might (or some of them conceivable might) influence jurisprudence. And in a discussion of this kind it would be important to have clearly in mind which of these influences was being examined; and if both, then to be certain that there was no confusion between them. But this, I think, is where Mr. Cairns has failed. He describes his purpose in a variety of phrases—it is to examine the possible contribution of these social sciences to "the legal process," "the law," the thought of "legal scholars," "the jurist," "legal thinking," "the legal historian" and "the legislator"—and he does not appear to recognise that it is one thing to help the lawyer or the jurist to think more clearly about the law, and quite another to help the legislator to make more reasonable laws. And further, he does not recognise clearly that it is one thing to demand that the legislator should consider social changes and reform the law accordingly, and that it is quite another thing (and more questionable) to demand that the judge himself should make use of what Mr. Cairns calls "the sociological method" in administering the law.

"It is a platitude," he remarks on p. 260, "to say that the legal system must, as a condition of its existence, perpetually adapt itself to the changing needs and ideals of the community in which it functions"; and the most valuable pages of this book are those which, elaborating this platitude, consider what contribution *e.g.*, the economist or the psychologist can make to the

reform of the law. Not only do needs and ideals change, but knowledge changes, and this change must be permitted to influence the legal system. The suggestions made are, for the most part, well thought out and cautious: he has no great confidence, for example, that psychology has yet reached any conclusions certain enough to form a basis for the reform of the rules of evidence, but he thinks that taxation and the law of property would benefit by reform under the guidance of the science of economics.

But a large part of the book is taken up with the examination of the possible contribution of these sciences to the solution of, not legislative, but legal and jurisprudential problems; and this part is, I think, less satisfactory. It is not difficult to see that anthropology might have something valuable to offer with regard to colonial legislation, but that it could ever help the jurist is not so easy to understand, and Mr. Cairns does not make it easier. It is clear that psychology or physiology might someday reach conclusions which could be made use of in reforming the law; but the pages here devoted to the examination of the possible contribution of psychology to the reformation of such legal ideas as an "act," or "responsibility" or "reasonable care" are less well considered. Nevertheless, the book contains much that is interesting, and is a well-documented and reliable (if slightly confused) guide to what is being thought (especially in America) about these subjects.

M. OAKESHOTT

Facing Labor Issues in China. By LOWE CHUAN-HUA. (Allen and Unwin. 1935. Pp. 202. *7s. 6d.*)

TO discuss labour conditions and problems in a country of the size and variety of China, where nothing even remotely approaching economic unity has yet been attained, is necessarily a difficult task, especially in view of the inadequacy of the available information. Mr. Lowe, in his *Facing Labor Issues in China,* is mainly concerned with labour in modern, organised industries, and deals in particular with labour organisation, trade unions, labour policy and legislation, workers' education, unemployment and industrial welfare. On account of the difficulties mentioned above, the picture given is somewhat patchy and lacking in perspective. For instance, it is difficult to obtain any general idea of the organisation, strength and leadership of trade unions in China from the three chapters on the subject, two of which consist of detailed accounts of particular unions. Nevertheless, Mr.

Lowe has, on the whole, succeeded in bringing together the available information in a concise and informative manner.

Mr. Lowe does not attempt to provide any broad sociological background for his study, such as was given by Professor Tawney in his *Land and Labour in China*, but his undoubted knowledge and awareness of this background prevents this defect from being as serious as might be feared. Moreover, he by no means ignores the broader economic implications of his subject. Thus, in his last chapter, "Conditions for Economic Reconstruction," he attempts, with considerable success, to place the problems of labour in modern industries into their proper relationship with those of agriculture, transport, finance and small-scale industries. In particular he stresses the fact that "until the millions of Chinese who depend upon the good earth for their livelihood are brought into a higher economic plane, it is futile to work for better standards for the industrial population."

The chief impression gained from the book is that the road to improvement in industrial labour conditions will be long and stony. Policies and legislation sound impressive, but in practice turn out to be little more than pious expressions of good intentions.

Mr. Lowe appears to pin his faith chiefly on financial and advisory co-operation from Western nations in Chinese regeneration. He make it perfectly clear that, even if such help should be forthcoming, it would have to be utilised in the first place for agricultural and transport improvements. Moreover, such co-operation obviously cannot be secured, on any substantial scale, until China's fundamental political problems have been tackled. May these essential preliminaries to economic and industrial reconstruction be less remote than they appear at present to the distant observer.

VERA ANSTEY

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Disarmament in British Foreign Policy. By R. A. CHAPUT. (London: Allen and Unwin. 1935. Pp. 432. 16*s.*)

THIS will be a useful book of reference for future students of political history. Its author is a French Canadian educated in the United States, who has recently spent several years of study at Geneva. He has compiled his story from the ordinary official published sources, supplemented by some of the best known published memoirs and diaries. The tale, after a brief introductory section on pre-war history, runs on, in ever-thickening detail, till 1934. It runs straight, but nearly always on the

official outer surface of events. "Treatment has been limited," says Mr. Chaput, "to the effectives and material of land, naval and air armaments." The problems of the manufacture of arms and of the trade in arms are not touched at all, and that of supervision only lightly. But he quotes "British experts" on a technical Sub-Commission at Geneva in 1920, who were "firmly of the opinion that any form of supervision or control of armaments by an international body is more calculated to foment ill-will and suspicion between States than to foster international confidence," and were, therefore, "entirely unable to accept for their Government anything in the nature of itinerant inquisitorial Commissions." This opinion the British "Service" experts have obstinately retained, and have succeeded in imposing on many politicians, including finally Lord Stanhope, who was left fighting in splendid isolation at Geneva in the early months of 1935 against a very moderate American proposal for supervision. I believe this expert opinion to be wrong and most shortsighted, though I cannot, without committing official improprieties, write freely on this and kindred questions. But I will put the essential point in general terms. The influence of British Service experts on disarmament negotiations, and on the politicians nominally conducting them, has, according to my observation, been more continuous and more powerful than that of either diplomatic or financial experts. Now, broadly, the Service Departments want armaments, the Foreign Office wants agreements and the Treasury wants economy. The many failures either to agree or to economise are not, therefore, difficult to explain. Mr. Chaput is, I think, too little critical of British policy, especially since 1932, in the World Disarmament Conference, where the British Government has played a steadily obstructive part and missed golden chances, especially in the early months, which will not recur. When negotiations on disarmament are once formally opened, though some diplomatic preparation should have preceded them, we are likely to get either quick results or none. The Washington Naval Conference illustrates the first alternative; the World Disarmament Conference the second. But at Washington in 1921 were Hughes and Balfour; at Geneva in 1932 much smaller men. As time slips away, the Service experts emphasise objections, personal frictions multiply, the politicians become preoccupied with other cares, the Press howls discouragingly, the public opinion favourable to disarmament grows nervous, fogged and tired.

Mr. Chaput, by limiting his field of study, misses some causal

connections, notably the disastrous effect of British wobbling over security upon the willingness of foreigners to disarm. Some of his *obiter dicta* I find unacceptable. "Not until the Sino-Japanese dispute of 1931 did it become quite clear, not that the original Covenant of the League was dead, but that it had never existed." Handled promptly and boldly, with British leadership within the League and the co-operation of the United States and the Soviet Union from without, this dispute would have triumphantly vindicated the Covenant. Again it was a choice between quick results or none.

Mr. Chaput grossly exaggerates the extent of British "unilateral disarmament" since the war. That we should have been spending well over £100 million a year on "defence," and yet "have nothing to keep our word with," if Locarno called, is a fantastic proposition.

HUGH DALTON

Great Britain and the Law of Nations. Vol. II. Territory (Part I). By PROFESSOR H. A. SMITH. (London: P. S. King. 1935. Pp. 422. 16*s.*)

GREAT hopes were raised after the War that international law was being placed, or was shortly to be placed, on the firm basis of codification and the judgments of the Permanent Court. Like all human expectations, these hopes are slow of realisation. The painful facts of life have produced a mood of cynical reaction towards the old anarchy. Despite the real gains since 1918, therefore, it still remains true that the law of nations is essentially a customary law. And custom can only be ascertained by the study of what men have actually done. Professor Smith has accordingly addressed himself to the colossal task of elucidating the British contribution to the formation of international law by reference to British official documents of the century and a half preceding the War. Such an undertaking, if it approached completeness, would rapidly fill a long series of portentous volumes. But Professor Smith is not the director of a public undertaking, supported by a staff of experts and able to give his whole time to the enterprise. Also, his object is to produce a series which can be read and enjoyed by the ordinary student or the intelligent layman. He has, therefore, selected a small number of disputes and negotiations which seem best fitted to illustrate the official views of this country on leading principles. He does not include decisions of our national courts, since they

are available elsewhere. His quotations are drawn from executive and diplomatic sources and the reports of the law officers.

Professor Smith described his first volume, on States, as an experiment, only to be extended if it met with an encouraging response. It is to be devoutly hoped that he is now convinced that his arduous labours are appreciated and that he will be enabled to continue them.

The present volume contains five chapters dealing with Title to Territory; the High Seas; Territorial Waters; Straits; and International Rivers; with an appendix containing the argument of the British Government in the Behring Sea Arbitration (Cd. 6921, of 1893). The documents are fewer and are given in greater extension than in Volume I, which is all to the good for the proper understanding of the writers' points of view. Also the layman thus has greater opportunity of enjoying the precision of legal and official phraseology, a particularly good example of which is the definition of an island on p. 132; though occasionally the wording is inaccurate, as in the description of cruisers as "hostile" (p. 111) at a time when Great Britain was neutral. Professor's Smith's own comments, when long enough, explain the documents admirably, and sometimes, *e.g.* concerning freedom of trade on the Zambesi, give the British case much better than do the documents. Sometimes, however, they are reduced below the necessary minimum. Lord Phillimore's report on the complicated problems of navigation on the river Plate and its confluents in time of war (p. 361) would be more intelligible were it preceded by fuller explanation.

In the chapter on Territorial Waters the author is able to adopt a singularly attractive method. He gives the questionnaire addressed by the League of Nations to its member States and the British memorandum of the 6th December, 1928, in reply; followed by historical illustrations of the British Government's attitude on the various questions. The documents reveal occasional inconsistencies on the part of Great Britain. Thus the memorandum lays down that Great Britain has never admitted the right of a State to claim jurisdiction beyond the three-mile limit. This was the calm and absolute assumption of Canning in 1825 over the matter of the oyster beds between France and the Channel Islands. Yet at times Great Britain has tolerated wider claims and her own "Hovering Acts" constituted breaches of the rule and seriously embarrassed H.M. Government in its attempts to secure consent to the three-mile line. It would indeed be surprising if the British Government

had always been perfectly consistent on all questions concerned with even one section of a law which was being built up by custom. Professor Smith's readers will be fortified both against the assumption that Great Britain has always been right and against the view of her as making her own international law regardless of the rest of the world.

They will also look forward with pleasure to the publication of further volumes of this most valuable series.

An eye kept open for minute errors has succeeded in observing nothing more serious than the allusion, on p. 110, to "Austria-Hungary" as a belligerent in 1859, eight years before the inauguration of the Dual Monarchy; and the misprint of "his" for "this" on p. 33. The grammar of Baron Humboldt's first draft (February 2, 1815) for Article 1 on the navigation of the Rhine (p. 302) is confusing; but it is, no doubt, accurately quoted, and the meaning is clear.

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World Reorganisation on Corporative Lines. By Giuseppe de Michelis. (London: George Allen and Unwin, Ltd. Pp. 312. 1935. 10*s*.)

This book is written by a distinguished Italian diplomat who has had much experience of international economic relations. Its title has a propagandist savour, and there are passages in it which fulfil this promise; but in the main it is a reasoned and level-headed plea for an extension of the economic activities of the League of Nations and the International Labour Office in directions where they have already made some progress.

Signor de Michelis begins with the postulate that ever more public control and co-ordination in the economic field is clearly necessary in order to promote the maximum use of resources. He justifies this by reference mainly to three facts—the tendency of uncontrolled private industry to become monopolistic and restrictive, and so to conflict with the interests of the consuming public; the growth of long-period unemployment, which he connects with rapid technical progress; and the continued unevenness in the relative distribution of labour, capital and natural resources in different parts of the world. In Italy, he claims, the conflict of private industry with the public good has been resolved by a corporative organisation of the State; and so in the international sphere the organs of a federation of states must in

future control markets and organise the development of backward regions. He then gives a useful survey of the inequalities of population densities between Europe and other continents, together with an account of the obstacles which have, since the War, checked the smoothing out of these inequalities by spontaneous migration. There is also a survey of possible areas of colonial settlement and of their present land systems; a discussion of the colonial sources of supply of the more important raw materials, and of the reasons for the growth of restriction schemes which are preventing their full use; and there is an estimate of the possibilities of restarting the flow of capital from the "old" to the "new" countries, and an account of what is already being done by such bodies as the Bank of International Settlements, the International Mortgage Credit Company, and the International Agricultural Credit Bank.

The last part of the book, entitled "Practical Application," is the most interesting. It is mainly a plea for deliberate international co-operation for the development of Africa, as a first and most promising task. The difficulty is that political sovereignty in Africa is largely in the hands of Great Britain and France, from which the urge to migration is decreasing, while Italy and Germany, which have the necessary men, possess small political power. But the author points out that the "satiated" powers have the necessary capital and export industries, which ought to make their interests correlative rather than competitive, with those of the others; and in addition, he argues that more abundant white settlement would make possible the final abolition of slavery and the mitigation of compulsory labour, by which the native population in many parts of Africa are still exploited. The difficulty of sovereignty he would meet, partly by the extension of the Mandates system, partly by the formation of colonial settlement corporations under conditions which would permit emigrants to retain their original nationality even in a foreign colony.

The general thesis of this part of the book seems to be that existing political sovereignties are quite reconcilable with the economic expansion of the whole of Europe, if only there is proper organisation by agreement between states. We may fear that Signor de Michelis is over-optimistic; but at the same time we must be grateful for the many practical proposals which he puts forward and discusses.

R. F. BRETHERTON

Wadham College,
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The Prospects of British Trade with the Soviet Union. 1*s.* 6*d.*
Collectivised Agriculture in the Soviet Union. 1*s.* 6*d.*
Money, Gold and Prices in the Soviet Union. 1*s.* 6*d.*
Banking and Credit in the Soviet Union. 3*s.*
Press and Publishing in the Soviet Union. 1*s.* 6*d.*

(Monographs published, 1934–5, by the School of Slavonic Studies, University of London, 40 Torrington Square, W.C.1.)

THE purpose of the authors of this series is said to be to "produce something which shall be of use both to the student and to the man of affairs." The Editorial Board responsible consists of Mr. Lancelot Lawton, Mr. L. E. Hubbard and Mr. S. P. Turin, and it is hoped that monographs will succeed in the double purpose of supplying objective information and giving answers to "vital considerations" arising from the facts elicited.

Along with all who write to-day about the Soviet Union the authors are beset, on the one hand, with the difficulty of describing complicated and unfamiliar economic institutions in terms which enable the reader to form an intelligent picture of the whole; and, on the other hand, with the insidious elusiveness of that objectivity which they so properly seek to attain. The measure in which they have overcome these difficulties varies considerably as between one monograph and another.

The first of the series is a straightforward analysis of the composition and quantity of Soviet trade, particularly with the United Kingdom. The conclusion reached is that the recent Trade Agreement should prove workable, and that there is scope for a considerable increase in British exports, particularly in exports of high-grade machinery and machine tools, to the U.S.S.R. By this means it is anticipated that the relatively even balance of trade between the two countries, contemplated in the later years of the Agreement, may be achieved. The author of the monograph indeed goes so far as to express the opinion that the prospects of trade with the U.S.S.R. are better now than at any previous time.

The second monograph, on agriculture, is, at least in one section, the chief offender in the matter of objectivity. The conclusions here reached are that the legal status of the members of collective farms is "for all practical purpose equivalent to bondage"; that the taxation imposed on collectivised peasants depresses the standard of living to "the lowest conceivable level"; and that the social and labour conditions on both State and collective farms are "extremely bad." These conclusions

are supported by evidence, drawn chiefly from the Soviet press, describing the system of taxation, the conditions of membership of the collective farms, and the method of payment of members. While it is not to be disputed that the attempt to collectivise agriculture has involved a very heavy cost in waste and misery (the author of an earlier part of the same monograph has no difficulty in showing the extreme difficulty experienced in getting adequate production from the collectives), it is impossible not to feel that the evidence has not, in this case, been selected with due impartiality. If the Soviets are to be convicted by their own admissions of failure explicit or implied, they should also be allowed the benefit of an examination of their no less abundant self-laudations.

The third monograph gives a short history of Soviet currency policy and theories, including the early experiments in a moneyless economy and a labour unit of value. On the subject of price-levels the authors wisely conclude that there are a number of differing price-levels in the Soviet Union, and that any attempt to estimate the commodity value of the rouble is hopeless. The monograph is, however, chiefly interesting for its second section, on the gold reserves and gold-mining industry of the Union, which contains much valuable material not readily accessible elsewhere. The author reaches the conclusion that if Soviet statistics are to be relied upon, the reserve of the State Bank amounts to some 802 million gold roubles, and the yearly gold production to 120 million, rising by about 25 per cent. annually.

The fourth and fifth monographs, which are bound together, grapple with the extremely difficult problem of giving a picture of banking and credit arrangements in a planned economy. The authors, who give fewer references in this than in most of the series, are apparently drawing largely on Soviet decrees affecting the banking system. They give detailed particulars of the credit relations between socialised enterprises, of the various institutions handling long- and short-term credit and of the changes introduced by successive and bewildering credit reforms. It is perhaps not they, so much as the nature of the problem and the inconsequential behaviour of the Soviet authorities, which should take the blame, if, in the end, the reader is unable, even with the most careful attention, to form any coherent picture of the working of the system.

The final paper on Press and Publishing is intelligible and useful. It includes accounts of the Government and Party Press, the "lower Press," the organisation of the publishing

and bookselling trades and some careful comparisons with other countries.

BARBARA WOOTTON

French Import Quotas: a new instrument of Commercial Policy. By F. A. HAIGHT, M.Sc. (Econ.). (London: P. S. King & Son, Ltd. 1935. Pp. xi + 125. 7*s.* 6*d.*)

FRANCE was the country in which the quota was first introduced during the slump, and a study of French policy and French opinions on the subject was well worth undertaking. Mr. Haight, by confining himself fairly closely to the problems of France and avoiding as a rule considerations of a more general character, has provided a clear and useful account of the circumstances under which the quota policy was formulated and has attempted an estimate of its effects on prices and trade.

Quotas were first imposed on agricultural imports, apparently as the result of the flood of such imports in 1931. Subsequently they were also imposed on manufactured goods and even on raw materials. Thus, starting in the ordinary way as an arrangement for protecting a particular group of producers, the system has been extended and has inevitably come to be judged in relation to the general monetary problem and to the policy of deflation. Does a quota policy help or hinder a country in its endeavour to maintain equilibrium on an effective gold standard?

Mr. Haight suggests that, as far as the balance of trade is concerned, quotas may not have had a very beneficial effect. The prices paid for foreign goods may rise with a less than proportionate reduction in the quantities imported; other goods not subject to quota may be imported in larger quantities, and thus the total payments for imports may increase. On the other hand, the extraordinarily high level of French domestic prices, which is partly the result of this policy, must have an unfavourable effect on exports. French governments have attacked the general problem either by deflationary measures or by efforts directed to securing greater freedom of trade, but these efforts "are to be directed chiefly against internal obstructions rather than towards the liberation of foreign commerce."

The administration of the quota system is fully discussed and its difficulties are pointed out. It may be operated through import licences or export certificates; in the former case, importers may be required to pay licence fees which, in so far as they exceed the cost of administration, "provide a means of appropriating part of the profits arising from the restrictions."

Further, the quota may be global or divided among the exporting countries, unilateral or bilateral (the latter term implying only that the quota is fixed after negotiation with foreign governments or concerns). These arrangements cut right across the field of commercial policy and it is very questionable whether they can be reconciled with the most-favoured-nation clauses of treaties. Mr. Haight devotes a chapter to commercial policy in which he shows that the desire, arising out of the depression, to gain fiscal autonomy has been largely achieved through the limitation of the most-favoured-nation clause and the deconsolidation of duties. He deplores the shift of policy towards reciprocal agreements which are based on the pernicious principle of balancing trade with individual countries.

The future of the quota is difficult to foresee. Its disappearance seems unlikely; the only alternative suggested is that it will be modified in such a way as to fit into a "planning" of foreign trade, thereby perhaps achieving a respectability which it at present lacks.

E. L. HARGREAVES

Oriel College,
Oxford.

Commodity Control in the Pacific Area: A Symposium on Recent Experience. Edited by W. L. HOLLAND. (London: George Allen and Unwin, Ltd. 1935. Pp. 452. 25*s.*)

THIS book, edited by the Research Secretary of the Institute of Pacific Relations, is a good example of the useful work which the Institute organises in countries many of which are remote from the usual centres of economic information. All the studies are descriptive of particular control schemes rather than essays in the theory of control. The result is a body of useful material rather than a theoretical contribution to the study of planned economy.

There is nothing specifically regional in the control schemes described. The Pacific Area is neither a political nor an economic region. Where international economic agreements operate, their tentacles reach to the Atlantic rather than across the Pacific. Indeed, the controlling brain, if not the heart, of their operations is usually in London or in Amsterdam. Most control schemes, however, are national. The measures taken to control rice and silk in Japan, to establish sugar as a white man's industry in Australia, to regulate exports from New Zealand or the natural quinine monopoly in Java, have been dictated by national considerations.

The range and variety of the control experiments in these (from an economic point of view) newer countries is at least as great as in older lands. As Mr. Holland points out, " the first chapter begins with wheat; the last ends with whales. Between these extremes are descriptions of controls exercised over a score of everyday commodities, the list of which sounds like something the Walrus and the Carpenter might have sung: cotton and cheese, cinchona and corn, honey and halibut, pineapples and pigs, rice and rubber, silk and sugar, tea and tin, butter and seals, frozen meat and tobacco, kauri gum and salmon."

The freshest material for Western economists is probably that compiled by Professors Tobata and Mori on the controls of the rice and silk markets. Their complexity prompts Professor Tobata to remark that " this problem of expressing a theory in concrete figures may yet prove a valuable stimulus to econometrics in Japan." A cynic might comment that the most important figures which have so far expressed the theories pursued in most control schemes are those which measure the increased public debt resulting from the losses incurred.

Another chapter covering unfamiliar ground is an interesting study of the emergency measures to counteract the depression in the Netherlands Indies. The boldness of these measures, like those undertaken in the British Dominions, suggests that planning is easier where Governments have greater power than in older lands where the social and economic structure is more complex and rigid.

More familiar ground is covered by Professor Joseph S. Davis in the chapter entitled " Planned Agricultural Adjustment in the United States." This is an admirable opening for the book, describing succinctly and clearly the background and main features of the A.A.A. programme. The standard of exposition is well kept in the later chapters. Mr. E. S. Haskell describes the " Stabilisation Operations of the Federal Farm Board "; Professor H. S. Patton writes of " The Canadian Wheat Pool in Prosperity and Depression "; Professor J. B. Brigden of " Control in the Australian Sugar Industry "; Professor Robert A. Mackay of " International Control of Fisheries in the North Pacific "; Barnabas Bryan, Jr., of " Petroleum Control in the United States "; while Mr. Oliver Lawrence deals with the international controls of Rubber and Tin.

It is very useful to have such excellent statements brought together in one handy volume. Shorter statements by Dr. Royal N. Chapman on " Co-operation in the Hawaiian Pineapple

Business," Mr. R. G. Hampton on "Export Control Boards in New Zealand" and Dr. G. L. Wood on "Control of Primary Commodities in Australia" round out the treatment.

This volume is a by-product of the Institute's discussions of international economic conflict and control in the Pacific Area. It seems clear, however, that the "controls" are mainly national, while they are responsible at least for the aggravation of that part of the conflict which is international. It would be difficult to improve Mr. Holland's description of most of the schemes as "makeshifts, often devised hastily to meet an emergency, or to placate a troublesome minority; once established, they often perpetuate themselves because they have created some new vested interests, which Governments dislike to break up, even though the emergency conditions have passed." Nevertheless, there are cases where scattered and individually weak producers have improved the efficiency and reduced the costs of production and marketing. Among these is the Canadian co-operative movement, despite its mistakes and failures. Professor Patton concludes that "the grain-growers of Western Canada have built up under prosperity, and retained under adversity, a producer-owned system of grain-handling facilities which will be of substantial advantage to its far-flung membership, whatever plan of marketing may prevail. The 1660 Pool elevators that dot the Canadian prairies and the great Pool terminals that rise over Thunder Bay and Burrard Inlet are physical symbols of a co-operative faith and solidarity which the world depression has not extinguished, but only intensified in the broader struggle for a co-operative commonwealth."

J. B. CONDLIFFE

Principles of Mortgage Banking Regulation in Europe. By MELCHIOR PALYI. (University of Chicago Press and Cambridge University Press. 1935. Pp. 38. 2*s*. 3*d*.)

PROFESSOR PALYI in a monograph which is a model of compression and lucidity summarises the principles of mortgage banking as they have developed on the Continent, and thus furnishes a useful addition to the comparatively scanty literature in English on the machinery and institutions of the long-term investment market.

The basic feature of the specialised institution, the mortgage bank, is the issue of bonds against the security of an underlying volume of mortgaged claims and, as Professor Palyi shows, the following principles have become traditionally established :—

a rigid separation of this class of business from deposit banking in order to avoid the dangers involved in the use of short-term funds for long-run investment; equality of bond issue and mortgage credit volume; genuine synchronisation of the term of the bonds and the mortgages; insistence where practicable upon amortisation arrangements. Practice reinforced by legislation has provided additional safeguards such as a minimum guarantee capital held in sound and liquid form, very conservative valuation and strict ratio of lending to this valuation, restriction of loans to first mortgages, and exclusion of certain types of property. Where the institutions are private, governments exercise further direct or indirect control by supervision of accounts, stipulations regarding publicity, and classification of the bonds for trustee purposes.

It is significant of the magnitude of economic fluctuations that with all these apparently formidable safeguards applicable to mortgage transactions any major depression inevitably involves State intervention before or after the embattled farmers have resisted the sheriff with shotguns. Indeed so incalculable is the agrarian side of the business that, as Professor Palyi points out, private mortgage banks tend to keep out of this line and concentrate on urban property, leaving the agricultural finance to governmental institutions which are usually channels of open or disguised subsidy, and thus, Professor Palyi might have added, render the agricultural situation still more incalculable. In respect of urban estate finance it is of interest to British readers that the practice in this country violates one of the fundamental principles set out in this paper, namely, avoidance of the use of short-term funds for long-run investment. The English building societies work largely on short-term deposits and no apprehension seems to be aroused on this score.

Finally, Professor Palyi describes what he conceives to be a natural and desirable development, the tendency for this specialised finance to become concentrated in the hands of a few large institutions, and he asks whether this tendency should be carried generally to the stage of a single monopoly as in France. He is suspicious of the monopoly mainly because of the shortcomings of State ownership or control and he is obviously impressed by the analogous situation of deposit banking in many countries. But it is not yet certain whether the ultimate strength of large independent financial institutions does not lie in the fact that they are too large to let go and in their privilege in a crisis of sending a lugubrious deputation to the central authorities drawing attention to this fact.

The arrangement is a compromise which may work but it does not bear analysis.

G. L. SCHWARTZ

London School of Economics.

Regulation of the Small Loan Business. By L. N. ROBINSON and ROLF NUGENT. (New York: Russell Sage Foundation. 1935. Pp. 284. $3.)

THIS is a final volume summarising a series of research publications on the Small Loan Business. Apart from a short historical review the material relates to a century's experience in the U.S.A., the turning-point of which was the development after 1916 of uniform legislation regulating the business. The work has interest as a social document on the problem of the unfortunate industrial or black-coated worker who in an emergency desires to raise any sum ranging up to about $300 on the meagre security of a chattel mortgage on furniture, a wage assignment or a simple note of hand; but it also has its general economic interest. It shows the necessity for and the economy of specialised institutions for this class of transaction which, with another minor if more reputable business, instalment finance, lies outside the scope of ordinary banking. It also affords another example of the difficulties encountered by and arising out of statutory regulation. Thus the promoters of the legislation, though actuated almost solely by sympathy with the borrowers, were constrained to agitate for a permitted rate of interest high enough not to drive the bulk of the business underground. Those who were appalled by the standard of 48 per cent. per annum for the "harsh and unconscionable" set up by the British legislation of 1927 on money-lending will learn that something like 3½ per cent. per month proved a working figure in the U.S.A. Legal sanction of this maximum resulted in the economy which is undoubtedly secured by bringing a surreptitious trade into the open, but the authors claim that it secured an additional economy by compelling the lenders to be more selective in their operations. No doubt a maximum rate, by freezing out the more dubious transactions, narrows the indiscriminate spreading of overheads and the consequent inter-subsidising of the cases, but the authors do not show why the lenders should not have come to practise this selectivity themselves. However, this feature of regulation has long been a matter of dispute and the authors are on the side of those who believe that entrepreneurial efficiency requires the occasional prick of legislation. Minimum wage regulation is the

stock example. The reader who is impressed by the altruistic campaign of the newspapers against a business which must have provided some remunerative advertising will find an explanation in the middle of the book. Reporters, compositors and pressmen were chronic borrowers.

G. L. SCHWARTZ

London School of Economics.

Made in Japan. By GUENTHER STEIN. (Methuen. Pp. x + 206. 7*s.* 6*d.*)

THIS book sets out to explain the rapid growth of Japan's export trade. In particular, it seeks to explain how far, if at all, that success is due to under-payment of workers, State subsidies, or the depreciation of the yen. This is a bold plan for a small book; but it should not be impossible of achievement. Mr. Stein's attempt has failed mainly, I think, because the book has apparently been written with the general reader in mind. If the various problems are to be solved at all precisely, the problems must be precisely formulated. And this last Mr. Stein has certainly not done.

But there is some interesting material. The survey of the various products, Western and Oriental, of Japanese industry; the picture of typical factories and their masters; the family budgets of workers of different grades; and the notes on the structure of Japanese industry: all these sections do help us to answer our questions. The really interesting points are often made quite incidentally. It is not enough to reiterate the paucity of natural resources as the explanation of the growth of Japanese exports. Greenlanders might equally well breed at the rate of a million a year and expect to develop an enormous export trade. The fundamental cause of the growth of Japan's exports has been the ability of her people to turn to making goods which the world wants in enormous quantities—" cheap " manufactures. Even with this ability, the fall in America's demand for raw silk in the last five years has imposed on Japan's workers a substantial fall in the command of their money wages over imported goods.

To some extent this necessity to improve manufactures in order to secure a satisfactory standard of living for her rapidly increasing population has been recognised in Japan. But the authorities appear to have learnt that lesson incompletely. For instead of accepting the fact that Japan can live comfortably only in a world in which international trade is developed freely,

they have concentrated their attention on assuring for Japanese manufacturers a certain supply of raw materials. This attitude has led to the expensive encouragement of native coal and iron production, and, in its latest and most extravagant form, the Manchurian adventure. For this policy Mr. Stein has no enthusiasm. He quotes the sarcasm of unofficial Tokyo to the effect that "Manchuria's most promising raw material is the air from which an unlimited quantity of nitrogen can be produced." But in a book of this type lack of enthusiasm is not enough: the issue should be clearly put and the fallacies boldly exposed.

The more immediate economic situation in Japan appears to Mr. Stein to be fraught with danger. The Government continues to finance its enormous expenditure on armaments by sales of bonds to the financial institutions and the public. There is no probability of any serious increase in taxation. So long as world depression has the effect of depressing Japanese sericulture this policy may be possible: indeed it may be saving Japan from the worst evils of the slump. But given world revival, the inflationary elements in the situation might very quickly grow out of hand.

Mr. Stein's little book shows awareness of these problems, and there can be no question that, as a picture of Japan's business life to-day, the book has substantial merit. But there is still room for a thorough treatment of the subject, preferably by an economist with first-hand knowledge of the country.

R. S. SAYERS

London School of Economics.

Modern Production among Backward Peoples. By I. C. GREAVES, M.A., McGill, Ph.D. (Econ.) London. (George Allen and Unwin, Ltd. 1935. Pp. 226. 10*s*. 6*d*.)

ANYONE who has attempted to study the problems of adjustment which arise when a backward people is brought suddenly into the sphere of the modern productive system cannot fail to be aware of the shortage of books dealing with these more dynamic aspects of the economics of primitive peoples. Such general studies as exist approach the subject mainly from the static, classificatory, angle. Miss Greaves' book is therefore especially welcome. It was written as a Doctorate thesis of the University of London, and like most such works it suffers at points from digressions more calculated to impress an examiner than to interest a reader. But these lapses into the jargon of economics and sociology are rare and do not seriously detract from its interest.

The title of the book is, however, a trifle misleading, as Miss Greaves has deliberately confined herself to problems of agricultural production. This is, I think, to be regretted, as the similarities between the problems of the mining and of the plantation recruitment of labour are sufficiently great for their differences to be interesting.

Miss Greaves' argument, put briefly, is this :—The distinction between backward and advanced peoples arises from differences in the proportions of the factors of production, and in particular in the proportions of labour and capital. "A primitive system is one in which the relative deficiency of capital keeps the productive process direct, or from hand-to-mouth, and there is little specialised production for exchange and hence only limited and clumsy media of exchange."[1] "All modern improvements in the tropics derive from the introduction of capital in some form,"[2] and "The fact that primitive economics do experience long periods of continuity undisturbed by forces of reorganisation and change must be regarded primarily as evidence not of their incompetence in utilising their resources to achieve desired ends, but of the satisfactory adjustment to this purpose of the fixed proportion of factors at their disposal."[3] If I am right in supposing her to mean that an existing equilibrium is disturbed by the introduction of foreign capital, and by that alone, I think her argument here is open to dispute.

The introduction of more roundabout, capitalistic, methods of production is a consequence of the combination of knowledge of a better technique and of labour available to construct the capital equipment. To say that the existing equilibrium is due to lack of capital must imply either that no labour is available to construct such equipment (or to obtain it indirectly by producing goods for exchange), or that knowledge and organising ability are lacking. It is possible to conceive of a people so poor that the whole of its normal activity is barely sufficient to provide its current needs by continuous work. But that is not, I think, a state of affairs typical of a backward people. In India and in parts of Africa it is certainly the case that the act of cultivation occupies only a part of the time of the cultivator. There is a large measure of unemployment which in present conditions finds its outlet in a volume of leisure which might, granted better organisation, be gladly exchanged for additional material goods. The deficiency here is not that of available labour but of available knowledge of technique or of available organising ability, and

[1] *Vide* p. 40. [2] *Vide* p. 58. [3] *Vide* p. 55.

disequilibrium may arise from new knowledge (if not rendered abortive by tradition or conservatism) as easily as from the introduction of supplies of foreign capital.

The supply of labour available to create capital goods has been augmented by another change to which I think Miss Greaves has possibly attached insufficient importance. Before the various imperialist Powers obtained control over these backward peoples, the division of labour between the sexes was as a rule dictated by the fact that the men were primarily warriors, available only for certain seasonal activities in cultivation. The routine work of cultivation fell in many cases to the women. The imposition of peace has left the male sex relatively under-employed. In certain African tribes there has, I think, been some readjustment during the last generation, more particularly where the technique of cultivation has itself changed. But it is easy to exaggerate the "opportunity cost" of men working away from home for short periods during the former fighting season. In some cases those men who stay at home can without serious difficulty perform the seasonal tasks of relatives who are away even for longer periods without substantial damage to the community. It is when the proportion of men absent becomes excessive that serious harm to existing institutions is caused.

This consideration ought, I think, to weigh also in another connection. Miss Greaves has rightly drawn attention to the influence of taxation in forcing men to go out to work for wages. Most persons would now deprecate the imposition of taxation on a scale which the reasonable financial needs of the territory do not demand. But even the lowest level of taxation required to maintain a skeleton administration and the barest minimum of medical and educational services may produce the same effect. What has, in fact, happened over large areas of Africa is that the obligation on the man to go out and earn tax-money to maintain the peace-giving administration has taken the place of the earlier duty to give military service. It is, in a sense, a change of form rather than a new imposition, though it can hardly fail to be in some measure disruptive of the earlier tribal organisation.

Miss Greaves ends with a most interesting discussion of the factors which decide whether a given crop shall be produced by estate production or by peasant cultivation. She concludes, when all is said, that economic forces are often less important than historical ones. She suggests that the inelasticity of supply of native growers has frequently been exaggerated. Where a native grower can revert from cash crops to subsistence

agriculture, a fall of price may lead him to abandon the cash crop earlier than will the estate. The signs, as she reads them, are of the relative decline of forms of production based on the simple wage labour of the more backward peoples and the growth of those systems in which the native is a free agent, producing his own crop in his own way, to be processed where necessary in a factory erected and controlled by foreign capital, but having an interest, either as *métayer* or as producer, in the price and the profits of the final product.

AUSTIN ROBINSON

Sidney Sussex College, Cambridge.

Industrial Organisation in India. By P. S. LOKANATHAN, Reader in Economics in the University of Madras. (London: George Allen and Unwin, Ltd. 1935. Pp. 413. 15*s*.)

IT often happens that for a period books upon some subject take an almost standard form and a practised reviewer could reconstruct the representative book and almost forecast the page upon which some given problem will be handled. Then someone breaks away, and to the infinite relief of the reader writes a book that is different. Of no subject has this been more true than of India, whether the problems handled were those of politics or of economics. But Dr. Lokanathan has achieved the triumph of writing a book that is different. His book is a product of real research, and deals in first-rate fashion with real problems. At the end of twenty pages he is breaking fresh ground with a most interesting discussion of the problem of the Managing Agent, British or Indian, the formation of Managing Agency Firms, and their remuneration. He has collected some extremely interesting information regarding the holdings of these firms and the part that they have played in company promotion.

He proceeds next to problems of the localisation of industry in India, and the size of industrial units, and discusses in some detail the various factors that have influenced the location and the scale, amongst others, of the Indian cotton industry, and the at present small iron and steel industry. From these problems he returns to capital raising and the relation of the Managing Agents to industrial finance, and, apart from a short chapter upon wages and standards of living, ends upon this theme of the effects of the Managing Agency System, its cost and efficiency and its influence on Industrial organisation.

The book is throughout well documented, and, though he is perfectly at home in dealing with the more theoretical aspects

of such problems as he encounters, Dr. Lokanathan gives one always the impression of having his feet firmly planted upon the solid ground of fact. One reader at least put the book down with a feeling that he had for almost the first time read something on Indian economic problems which attempted to answer the questions that he had always himself wanted to ask, and which answered them extremely well.

AUSTIN ROBINSON

Sidney Sussex College, Cambridge.

His Majesty the President: a Study of Constitutional Brazil. By ERNEST HAMBLOCH. (Pp. 252. 10*s.* 6*d.*)

Brazil: a Study of Economic Types. By J. F. NORMANO. (University of North Carolina Press. Pp. xii + 254. $3.00.)

FEW people know much about Brazil, not excepting the many investors who are looking so anxiously at their capital and wondering what will happen to it. This is rather astounding considering the amount of British capital invested in Brazil. For those seeking knowledge Mr. Hambloch's book will be a brilliant and depressing study. Brilliant both because of its masterly analysis of the political system as it is on paper and in actual fact, and also because of its style: depressing because of what it reveals—a system so corrupt and divorced from the decencies of governmental life as to make one wonder if there is any hope of better things.

Students of South American history and politics have long known what value to attach to republican democracy as found in that part of the world, while the wider public have a general idea that there is not much real democracy. Few, however, will have read so careful and detailed a study which reveals a corruptness and ineptitude beyond belief.

The only criticism one can bring against the author—who is excellently qualified to write on the subject by long residence in the country—is that he seems constantly to express surprise, or at least to imply it, at what he reveals and further to seem to believe that, perhaps, something can be done about it. Personally one is pessimistic, but here one must bow to long knowledge which the author has of the people of the country, for it is evident that he not only likes them but believes in their capacity ultimately to create and work a decent and efficient governmental system. The task indeed seems hopeless, as the long regime of corruptness and jobbery has not only created

a mass of vested interests but has almost completely corrupted both the rulers and the ruled. As the writer shows, revolution only puts into office another set of place-seekers with ideals on a par with those whom they have displaced.

Having viewed the political background one can hardly be astonished at the economic development or lack of development of the country, and so one is prepared for Mr. Normano's study, which does not pretend to be exhaustive.

Though largely economic there is a certain romantic appeal and approach. The " Moving Frontier " has gone slightly to the author's head in Chapters I and III, so that the superlative is rather in evidence, while the generalisations are very broad but not too deep. In contrast, however, there is an exceedingly useful chapter on Brazil's leading products, which, in addition to giving their present-day position, sketches briefly their growth and relative decline in world trade. This is well documented.

A chapter each is devoted to Public Finance and to Currency and Banking. These are of considerable length and give much detail. In themselves they are interesting, though they make depressing reading. Put briefly they are the history of incompetence and ineptitude if nothing worse. In his last chapter the author seeks an explanation for Brazil's continuous economic failure in spite of great possibilities. He, too, believes it to be due to a thoroughly bad political system, though he does not develop the theme and fails to emphasise enough the human cause. He merely notes that there is a " lack of coincidence " between economic and political Brazil : between the economic and financial policies of the individual States and the Federal Government : between the various regions within the States. But after all this is no final explanation. The fundamental factor is the human one. The Brazilian has failed to achieve a good political system for the same reason that the Spaniard has failed to do so. Given this human failure there is no need to suggest anything else. When and if the human factor can discipline itself or be disciplined, then economic progress will be made and stability achieved. As it is the country gets along chiefly because of its vast resources. Finally, there is a criticism of the Niemeyer Report, which is somewhat severely handled. In this the author has much to say that is well founded, as no financial reconstruction can help Brazil so long as the economic and political foundations are rotten. Itinerant experts are often dangerous.

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Railway Nationalisation in Canada. The problem of the National Railways. By LESLIE T. FOURNIER, M.A., Ph.D. (Toronto: The Macmillan Company of Canada, Limited. 1935. Pp. 358. 15*s*.)

WHAT relationship should exist between elected governments and those responsible for the development and operation of railways? It is because this question is still a matter of debate and uncertainty in many parts of the world that this book deserves our special attention. For it is a detailed and authoritative account of the development of that part of Canada's railway system which eventually became the Canadian National Railway, with special reference to the Dominion Government's participation in that development. In many ways it is just the sort of survey that is wanted, if we are to learn anything from past experience in this matter.

The outstanding feature of this participation seems to have been the persistent aiding and abetting of railway construction and development far beyond that point at which the properties themselves could earn the anticipated rates of interest on the investments made. As the author tells us, speaking of pre-War developments, "Without enabling legislation, and the extension of Government credit from which all received their essential support, the companies could not have expanded and over-built" (p. 56). Coming to the post-War era, as if the dangers of over-investment in railways had never been heard of, the Dominion Government once again became a party to an altogether unjustified degree of expansion. Then came the Great Depression. What a crash! If parliamentary control ever was thought to be a safeguard against those errors of optimism usually associated with capitalist enterprise, this case at least lends weight to a contrary view.

It is only when the author, in his final chapters, proceeds to interpret these eventualities, with a view to formulating policy, that he exposes himself to criticism. Not that he is necessarily wrong in his unqualified advocacy of the complete financial and administrative unification of the Canadian National and her rival sister the Canadian Pacific. But it is the logic by which he reaches that conclusion that appears to be so dubious. Briefly it is this. In the past there has been unremunerative investment on a colossal scale. There have also been two great railway systems competing with one another. The former fact is due to the latter. Therefore, in order to prevent a repetition of

such waste, the number of railways must be reduced from two to one. But does this argument really stand a careful examination? I think not. The widely held view that because there are two railways competing with one another, one or other of them is *obliged* to undertake wasteful operations is, generally speaking, quite erroneous. Because the Canadian Pacific already provided a high standard of passenger service between two given points, there was no reason why the Canadian National need have done so too. The fact that the Canadian Pacific Railway was already operating within the Dominion was no justification for a financially unsound policy of expansion and duplication on the part of the Canadian National Railway. On the contrary, the very existence of the C.P.R. should have been a signal to the C.N.R. for caution. It would seem to be due to the author's failure to grasp this that leads him too lightly to dismiss an alternative to complete unification, *i.e.* the imposition of a prudent administration over the Canadian National, free from political pressure to over-spend. It is to be deplored that Professor Fournier has not handled this issue with that absolute precision and clarity that the problem demands.

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Wheat and the A.A.A. By J. S. DAVIS. (Washington: The Brookings Institution. 1935. Pp. xvii + 468. $3.00.)

THE Brookings Institution deserves credit for turning so much of the abundant self-consciousness of the American economy into careful introspection. Keeping close behind their hurrying legislators the Institution is now publishing a six-volume series of books describing and analysing various sections of the Agricultural Adjustment Act and its administration, " on a basis as nearly scientific as could be made." A high standard has been set in this first volume by Dr. Davis, whose excellent work in " Wheat Studies " is well known to all interested in this field. Dr. Davis' exposition of what has been done and proposed up to April 1935 and his analysis of the effects of these measures is of value not only to those interested in wheat but also to students of economic " planning " or " adjustment " under capitalism.

In the preliminary chapter the development of the American wheat situation is traced, from the great stimulus given to production by war-time prices, through the slow expansion of the 'twenties, up to the stalemate of depression and drought. Against this background are set forth the evolution, the " philosophy "

and provisions of the wheat sections of the Act and their administration. This outline completed, Dr. Davis fills in details of the interesting efforts to use voluntary contracts as a means of government control of production. Official expectations were somewhat disappointed, he tells us, because only about one-third of the eligible wheat-growers, farming about 80 per cent. of the normal acreage, however, contracted to reduce their acreage in 1934 and 1935 in return for benefit payments of 29 cents a bushel on 54 per cent. of their previous annual production. These payments formed 26 per cent. of the farmers' total cash income from wheat in each of these two years of operation. The processing tax on flour to pay these benefits is shown to have been accompanied by a more than proportional increase in bread prices. Apparently these exceptionally regressive taxes, added to a previous tax structure now officially considered too regressive, were the only ones thought politically feasible. Dr. Davis considers that the minor parts of the programme, including regulation of grain exchanges, a "code" for milling, and small "stabilisation" purchases for relief distribution, have had little if any effect on grain price-levels. In a carefully worked out analysis of the export subsidy he shows its benefits were much less than commonly thought. A chapter on the ill-fated International Agreement contains a good description of its evolution and breakdown and apparently strives not to blame Argentina for the failure. Further light is still needed on the real reasons preventing an international control of exports, about which Dr. Davis is quite pessimistic. He estimates that the A.A.A. programme probably caused a reduction of 5 per cent. or 6 per cent. in 1934 acreage, and of 2 per cent. or 3 per cent. in flour consumption, while its total effect on wheat prices was probably to hold the average not more than 2 or 3 cents above what it would otherwise have been in 1933–4, and less the next year. Dr. Davis admits the inconclusive nature of the evidence for these estimates, but, unfortunately for the economist, does not indicate his method of isolating the effects of the Act.

The "contributions toward appraisal," though paying a tribute to the skill and effort of the administration, generally suggest that the "experiment" is not worth continuing, at least in the form now contemplated. The benefit to farmers and farm communities is granted, but Dr. Davis does not fall victim to the all too common fallacy that raising wheat prices will assist *general* recovery. Nor does he subscribe to the "parity" school of price adjustment, which he says often confuses

just prices with "normal" prices, and overlooks the probable reduction of both of these for wheat since the pre-war base period. He favours, not complete *laissez-faire* but only the minimum of interference necessary to assist and quicken the cruelly slow process of economic adjustment. Unfortunately, Dr. Davis discusses this absorbing matter all too briefly. Indeed in general the book does not describe the fundamental economic problems of the wheat producer and the alternatives facing him, and therefore we are unable to see in what direction the farmer should be helped to turn. Perhaps this will appear in later volumes of the series. In the meantime the farmer continues to suffer from the general depression which has rendered this, like most other problems of adjustment, doubly difficult and made expedient measures whose permanent retention would certainly impede economic efficiency.

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Proceedings of the Third International Conference of Agricultural Economists. (London : Oxford University Press, Humphrey Milford. Pp. 498. 17*s.* 6*d.*)

This volume, which is the third of the Proceedings of the International Conference of Agricultural Economists, will have a more direct appeal to economists who are not professional agricultural economists than its two predecessors. In the Proceedings of the first International Conference of Agricultural Economists, held in August 1929, the main emphasis was laid on the technical problems of research. In the Proceedings of the second Conference the scope of the discussions was much wider, but the bulk of the space was taken up with technique of research. At the third Conference, however, held in August 1934, the gravity of world conditions caused the organisers to omit from the programme all questions of research methods, so that the Conference could devote its whole time to a study of national policies and their interaction, and to the international problems which result. Many of the problems thus considered are general, and not specifically agricultural; emphasis, however, is laid throughout on their agricultural implications.

The third Conference was held in Germany, and the proceedings begin with a description of German agriculture by Professor Zörner, and with a clear summary of the course and causes of the world economic crisis by Dr. Sering. In this introduction to the subject-matter of the Conference Dr. Sering first states the argu-

ment—to be reiterated by most of the other German speakers—that the economic crisis was the result of the non-productive debts which Germany was forced to pay as the result of the Peace Treaty, and of capital anarchy, with its planless lending and withdrawal of loans.

It is impossible in the space of this review to list all the papers included in the Proceedings. They fall into four main sections. The first deals with national agricultural problems in eleven countries,—Great Britain, Switzerland, Germany, Italy, Holland, Bulgaria, Rumania, Yugoslavia, British India, Canada, and the United States,—with special emphasis on the development of a planned economy. The descriptions are inevitably brief, and in some cases presented in too general a form to be of value to those who are not familiar with the policies of the countries in question. None the less this section makes possible some highly interesting comparisons of the methods and degrees of planning adopted by the different Governments.

The second section is concerned with the two extreme types of farm organisation, the family or peasant farm, and the collective or state farm. It includes, besides descriptions of the family-farm system in Italy and Norway, and of collective farming in Russia, analyses of the social and economic merits of the two systems.

The third section deals with the outlook for world population, and its effect on agriculture. Dr. Whelpton provides a useful summary and criticism of the existing estimates of future population, and stresses that the rate of growth of population is declining, and will cease. Dr. Baker gives much valuable material in his lucid analysis of the relationship, in the United States, of the trend in population to the depletion of the natural resources of the food supply.

The final section deals with international problems, mostly of a general nature, and with their bearing on agriculture. The monetary problem is first discussed; Dr. Warren emphasises once again the effects of a variable price-level and the advantages of reflation in the United States; Dr. Schumacher defends the gold standard, and criticises the policy of devaluation, and Dr. Dijt proposes to stabilise the general price-level through the international valorisation of wheat, sugar, cotton, coffee and rubber. Dr. Schacht, the President of the Reichsbank, and German Minister of Economics, in a well-documented and arresting paper, attributes the world crisis and the failure of incipient signs of recovery to the German debt problem, together with restrictions

on German exports to other countries. Mr. Enfield provides a valuable analysis of the interactions of international debts, restrictions on trade, and monetary policies.

The problem of trade agreements is next taken up, from the point of view of bilateral trade agreements and of regional pacts.

Finally, analyses are given of attempts to plan internationally supply and production. Mr. E. M. H. Lloyd provides a useful summary of the international schemes for regulating supply which existed in 1934, and a striking defence of restrictions. Dr. H. C. Taylor urges economists to attempt to ascertain comparative advantages in production of the various countries and to present "the facts in such form that the economic vision of the negotiators of international agreements may be clear, accurate, and comprehensive." Such, he considers, is the task of economists in the international planning of agricultural production.

The papers collected in these Proceedings should prove of interest in two ways. First, they summarise a large amount of useful information, which is not readily available elsewhere. The method of arrangement of the volume makes it particularly easy to find this information. Secondly, they give some idea of the attitude towards agriculture and towards economic policy generally of the agricultural economists present from the different countries. Those interested in the present German mentality are recommended to read the German contributions.

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NOTES AND MEMORANDA

The Amended U.S. Federal Reserve Law: The Banking Act of 1935

§ 1. The American Banking Act of 1935, passed last August, effects far-reaching revision of Federal Reserve Law. In its final form it represents a compromise between the " radicalism " of Governor Eccles, as embodied in the House bill, and the strict orthodoxy of Senator Carter Glass, who was responsible for the considerable modification of the latter by the Senate Committee. The purpose of this note is to supplement and bring up to date my article on the subject in the Economic Journal of June 1935. That article summarised the bill as it stood on leaving the House but before going through the Senate. What was said there still remains true for the most part, and only the subsequent changes in the bill need be noted here. In discussing them, reference will be chiefly to § 6 (*Analysis of Provisions*) of the article referred to above.

§ 2. *Deposit Insurance and Membership in the Federal Reserve System.* (Cf. § 3 of article.) The temporary deposit insurance law expiring August 31, insuring bank deposits fully up to $5,000, is made permanent. As in the House bill, the assessment is levied upon the total deposits of participating banks, but the rate is changed, as a result of Senate amendment, from one-eighth of one per cent. to one-twelfth, many bankers having charged that the higher figure would be prohibitive. It is estimated that not less than 95 per cent. of the nation's depositors will be fully insured and nearly half of total deposits protected.

The Act repeals existing law requiring all State non-member banks to become members of the Federal Reserve System by July 1, 1937, as a condition precedent to participation in the benefits of deposit insurance. Instead, only State banks with average deposits of over one million dollars are required to join, and even so the provision does not become operative until July 1, 1942. It thus relaxes existing law by allowing more than 6,500 State non-member banks with deposits of less than a million to continue their insured status without joining the Reserve System. To this extent the original bill's object of eventually forcing all commercial banks into the System is weakened. Here the House

and the opponents of unified banking regulation scored a partial victory over the Senate for provincialism and for preserving a dual banking system.

§ 3. *Federal Reserve Bank Governors.* (Cf. § 6 *a* of article.) The House bill merged the offices of Governor and Chairman of the Board of Directors of the Federal Reserve Banks and made these appointments subject to the approval of the Reserve Board every three years. The Act embodies the Senate amendment providing for the appointment of a President and a First Vice-President of each bank to serve as its chief executive officers for five-year terms, the appointments being subject to the approval of the Board of Governors of the Federal Reserve System (which is the new name for the Federal Reserve Board).

§ 4. *Federal Reserve Board.* (Cf. § 5 and 6 *b* of article.) The House bill included a requirement that members of the Federal Reserve Board should be well qualified by education or experience to participate in the formulation of national economic and monetary policies. This was to be in lieu of the provision of existing law that in selecting members the President should have due regard to a fair representation of the financial, agricultural, industrial and commercial interests and geographic divisions of the country. The Act eliminates the House requirement and restores the original provision.

The House bill had provided that the term of the Governor of the Board should be at the pleasure of the President. Senate amendment eliminated this section of the bill and substituted the following provisions for the organisation and membership of the Board.

The Federal Reserve Board is to be known henceforth as the Board of Governors of the Federal Reserve System, the titles of Governor and Vice-Governor being changed to Chairman and Vice-Chairman. This Board is to consist of seven members appointed by the President subject to Senatorial approval (instead of six appointive and two *ex-officio* members, as hitherto) for terms of 14 years and not eligible for reappointment. It should be noted that the Secretary of the Treasury and the Comptroller of the Currency cease to be *ex-officio* members of the Board. These provisions were inserted by the Senate Committee in order to increase the Board's freedom from political influence. The President is to select the Chairman and Vice-Chairman to serve for four-year terms. The change in organisation is to take effect on February 1, 1936, when President Roosevelt will be able to name an entirely new Board.

An interesting provision is the requirement that the Board keep a complete record of the action taken by it and by the Federal Open-Market Committee upon all questions of policy relating to open-market operations and other questions of policy determined by it, together with votes and the reasons underlying action, the records to be included in the Board's annual reports to Congress. The provision in the House bill expressly imposing upon the Board the duty of exercising such powers as it possessed of promoting business stability was, however, struck out by the Senate Committee, and is omitted from the Act.

§ 5. *Open-Market Operations and Discount Rates.* (Cf. § 6 *c* of article.) The House bill had proposed to centralise control over open-market operations and discount policy by vesting power and responsibility in the Federal Reserve Board, subject only to the obligation that the latter consult an Open-Market Advisory Committee of five governors of Federal Reserve Banks without voting rights. The Act provides for a Federal Open-Market Committee, with authority to compel compliance on the part of Reserve Banks, consisting of the seven members of the Board of Governors of the Federal Reserve System and five representatives of the Federal Reserve Banks to be selected annually by regions by the latter. Thus the Board has a majority on the Committee. Control over the System's open-market operations by the administration of the day is, however, subject to the limitation of the Board members' long tenure of office. But the freedom of action hitherto enjoyed by the individual Reserve Banks and their power to nullify policies initiated by the Board, with the resultant diffusion of responsibility, are brought to an end, though the power of the Board is less than in the House bill by reason of the presence on the Open-Market Committee of the five additional members representing the Reserve Banks. A significant alteration in the Act, as compared with the House bill, is the provision that purchases of Government securities for the Reserve Banks may be made *only* in the open market, and not directly from the Treasury, as they could have been under the House bill. Those responsible for the insertion of this provision felt that permission to purchase securities direct from the Treasury might result in schemes to finance Government through these transactions. Under Reserve Board approval, rediscount rates may continue to be changed as before, but they must be stated every fourteen days, or oftener if required by the Board, which can disapprove the proposed rates and alter them.

The House bill had given the Board full authority to establish the rates, with their operation mandatory.

§ 6. *Rediscounting and Collateral Requirements.* (Cf. § 6 *d* of article.) The House bill had scrapped the eligibility provisions for rediscounting by and advances to member banks, and had made any sound asset of a member bank eligible for discount at a Reserve Bank at the discretion of the Board. In the Act this is altered. Reserve Banks may make loans to member banks on paper otherwise described as ineligible, but subject to the provision that they shall be for not more than four months and that a penalty in the way of interest be added of not less than one-half of one per cent. Eligible paper would not, however, have to be first exhausted before loans could be made on the other class.

§ 7. *Federal Reserve Notes.* (Cf. § 6 *e* of article.) The House bill, though retaining the 40 per cent. backing in gold certificates for Federal Reserve Notes, had proposed to repeal the requirement that they be secured by the specific pledge of collateral. This provision was eliminated by the Senate Committee and is omitted from the Act.

§ 8. *Member Bank Reserve Requirements.* (Cf. § 6 *f* of article.) The House bill had given the Federal Reserve Board power to vary the statutory reserve requirements of member banks (of 7, 10 and 13 per cent. against deposits), as a weapon to reinforce open-market operations. In the Act, as a result of Senate amendment, the limitation is added that reserve requirements may not be revised upward to more than twice their existing level, nor downward at all.

§ 9. *Real Estate Loans.* (Cf. § 6 *g* of article.) The House bill had permitted National banks to grant loans on real estate on conditions to be determined at the discretion of the Reserve Board, on an amortised basis, provided that the amount of any such loan did not exceed 60 per cent. of the appraised value of the real estate nor their aggregate amount 100 per cent. of the capital and surplus of the bank or 60 per cent. of its time and savings deposits, whichever was greater. In the Act this section is changed as follows: the provisions authorising the Federal Reserve Board to prescribe the conditions under which such loans may be made is eliminated; loans may not exceed 50 per cent. of the appraised value of the real estate offered as security and are limited to five years, except that if the loan is secured by an amortised mortgage providing for 40 per cent. retirement in ten years, the loan may be made up to 60 per cent. of the

appraised value over a ten-year term; but the provision is retained respecting the aggregate amount of real estate loans which may be made.

§ 10. *Interlocking Bank Directorships.* An interesting provision relating to member banks inserted by the Senate Committee is that, except in certain enumerated cases, bankers may serve simultaneously as directors, officers or employees of not more than two banks, and even so only when allowed by regulations of the Reserve Board. The operation of this provision is, however, suspended until February 1, 1939.

§ 11. *General Nature of the Changes.* The modifications noted above in the Banking bill since it left the House are readily seen to have all been in the direction of lessening the power it gave the Government over the Reserve Board, and the Board over the Reserve System and the nation's banking structure. Thanks chiefly to Senator Glass, implacable foe of Government domination of banking and paladin of traditional "sound money" views, the more advanced proposals of Governor Eccles for centralised control have been somewhat hedged about with certain supposed safeguards of independence. How the law will work in practice must depend very largely upon how it is administered, and not least upon the President's appointments to the new Board of Governors of the Reserve System. This much can be said: the new Act, even with its modifications, places far greater power in the hands of the new Reserve Board than the old one ever possessed. It reflects a central banking outlook considerably removed from that which inspired the original Federal Reserve Act, represents a substantial advance towards centralisation, and renders the Reserve System a far less autonomous and automatically functioning mechanism than it was originally intended to be—even if it does represent no great departure from the actual practice of recent years.

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A TENTATIVE METHOD OF ESTIMATING NET FARM INCOMES

AN article[1] in a recent issue of the ECONOMIC JOURNAL illustrated that variations in the official price index of agricultural commodities do not necessarily imply corresponding

[1] "Recent Changes in the Physical Output of Arable Farms." R. McG. Carslaw and P. E. Graves. Vol. XLV, p. 106.

changes in either the gross or the net incomes of farmers. The difficulty of establishing an index for these latter is great, and the result of any tentative computations must be questionable unless there is corroborative evidence as to their accuracy. But a survey of farming conditions in the Eastern Counties, undertaken by the Cambridge Department of Agriculture during each of the three years 1931–33, affords certain useful data, as well as an opportunity for testing methods of estimation. The purpose of this article is to describe a system of computation which has apparently given fairly satisfactory results. These surveys covered 1,000 farms of 20 acres or more in each year, and the sampling was sufficiently scattered to ensure that the results would be reasonably representative of the six counties of Norfolk, Suffolk, Essex, Cambridge (excl. the Isle of Ely), Hertford and Huntingdon.

The basic data required consist of the average amount and composition of the gross income and expenditure on farms in the area for a given year. Table I gives this material as ascertained in the Eastern Counties' survey for 1931.

TABLE I

Gross Income.		Gross Charges.	
Per Farm. £1,011.		Per Farm. £1,003.	
Item.	Composition. (%)	Item.	Composition. (%)
Dairy produce	23·8	Labour	35·7
Horned stock	16·3	Feeding stuffs	16·7
Pigs	11·2	Live-stock	13·7
Eggs	7·0	Rent	13·5
Sheep and wool	6·0	Seeds	2·8
Poultry	4·2	Fertilisers	2·8
Barley	7·9	Miscellaneous	14·8
Wheat	5·3		
Sugar beet	4·7		
Potatoes	3·8		
Hay	1·9		
Oats	0·7		
Peas and beans	0·6		
Other crops	4·1		
Miscellaneous	2·5		
Gross income	100·0	Gross charges	100·0

The principle of the method is to ascertain changes from the basic period in the prices and costs as well as in the quantities of material produced and consumed, and to link these together

by a system of weighting in which the figures in Table I are incorporated.

An index (1931 = 100) was first prepared for every item of production; crop areas of each county were multiplied by their yield per acre for each year, while the number of each type of live-stock was expressed as an index. In the case of milk, the number of cows was assumed to represent production after a suitable adjustment had been made for variations in milk yields as indicated in the 1931 Census figures. For combination with these indices similar figures based on 1931 were prepared for prices. An example of combining these figures in order to arrive at a price X production index is illustrated in Table II.

TABLE II

Year.	No. of Cows in Milk.	Yield per Cow.	Production Index.	Price (Milk) Index.	Price X Production Index.
1929–30 . .	99·9	98·1	98·1	103·6	101·6
1930–31 . .	100·0	100·0	100·0	100·0	100·0

For corn crops the monthly prices were weighted by the quantity sold each month, and as far as possible the prices taken refer to a particular cereal year. For instance, in 1931 the cereal prices were based on the eleven months August 1931 to June 1932, while live-stock and other products for the same year were based on the period October 1930 to September 1931. Having established a price X production index for each item of the base, subsequent weighting produced results illustrated by an example in Table III.

TABLE III

Item.	Percentage Composition of Gross Income in 1931.	Price X Production Index in 1929–30.	Weighted Index in 1929–30.
Dairy produce . .	23·8	101·6	24·181
Etc. . . .			
Total . . .	100·0	—	105·689

Thus the gross income in 1930 was some 5·69 per cent. greater than that of the following year. This latter amounted to £1,011, so that in 1930 the comparable figure is £1,069.

The comprehensive range of material gives apparently satisfactory weighting for the credit side of the account, but, unfortunately, the same cannot be said of the gross charges, for which quantitative information is scarce. It would appear that so far as the major item of labour is concerned the material is adequate, but with some of the other items it is certain that the figures can only be approximate. For calculating a labour price index the county wage rates of ordinary workers were weighted by the total number of regular employees in each county. This was combined with an index representing the total number of workers in order to give a quantity X price index for weighting the labour item. The construction of composite indices is necessarily complicated in some instances, but the object in all cases has been to combine both price and quantitative variations.

Although the proportion of crops sold, particularly corn, is liable to vary considerably, no allowance for such changes has been attempted, because it would appear to be unnecessary if the object is to calculate net incomes. For instance, if incomes are augmented by sales of a greater proportion of crops, it must surely lead to increased purchases of feeding stuffs. Therefore, the assumption is reasonable that variations of this nature have approximately compensating effects on both sides of the account. An adjustment has been introduced for variations in food-stuff purchases due to other causes. Fluctuations in the number of live-stock, or the rise and fall of crop production, will probably affect the amount of food imported, and a quantitative index has, therefore, been adapted from such imports. Without claiming that such figures are ideal, it seems that they fulfil their object in allowing for certain changes without necessarily being influenced by others.

It will be seen in Table IV that the estimated net farm income

TABLE IV

Harvest Year.	General Agricultural Price Index for England and Wales.	Net Income per Farm.	
		Survey.	Estimated.
1929–30 . . .	111	—	+ £14
1930–31 . . .	100	+ £8	—
1931–32 [1] . . .	91	−£23	− £39
1932–33 [1] . . .	82	+£42	+ £43
1933–34 [1] . . .	88	—	+£104

[1] Excluding wheat deficiency payments.

in 1932 is slightly different from the survey figures, while the results in 1933 are practically identical. Such close agreement is certainly encouraging, for even though the survey figures may not be absolute, they are representative enough to give a fair idea of relative changes. Indeed, a reasonable indication of net incomes over a considerable period might be deduced if it were not for the scant material available for weighting certain items. Probably the most serious obstacle relates to the miscellaneous expenses. Various components of this item might be segregated, but even so there appears to be very little material on which to construct any reliable quantitative indices. During recent years, however, it is probable that the work performed by tradesmen, extent of insurance, quantity of oil and petrol, transport, etc. have remained practically constant.

The close agreement between the estimated and survey figures in 1932 and 1933 cannot, of course, be taken as conclusive evidence of the reliability of the method of calculation employed, and the substantial improvement in 1934, suggested by Table IV, will certainly be open to question. But, assuming that the estimates for 1930–34 are reasonable, the relative position is, perhaps, best expressed by means of an index. To calculate such a figure for the actual profit appears to be fraught with difficulties which cannot be overcome with satisfaction, but the position may be clearly represented if the indices of gross income and charges are considered. Such indices are given in Table V, and bearing in mind that the base of both was practically identical, it will be evident that the difference between the index of each will show the relative position each year. Certain qualifications are necessary if the trends of either income or charges are considered individually, for it has already been explained that any year-to-year variation in the proportion of crops sold has been ignored in calculating the gross income. The adjustment for such changes has been made on the other side of the account, so that although no difference is made to the net return, the figures may not give a true indication in other respects.

TABLE V

Year.	Gross Income.	Gross Charges.
1929–30	105·6	105·1
1930–31	100·0	100·0
1931–32	96·0	100·6
1932–33	102·3	98·9
1933–34	108·6	99·1

The computation of these indices was made possible mainly by figures extracted from the Official Agricultural Statistics, and information on wage rates from the N.F.U. Year Book. Valuable assistance was rendered by Mr. A. N. Gray on the consumption of fertilisers, and by Messrs. James Carter on the prices of clover seed. To these gentlemen grateful thanks are due.

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LARGE AND SMALL FIRMS: A NOTE ON COSTS IN THE ROAD TRANSPORT INDUSTRY

THERE has lately been an increasing tendency to believe that the larger an organisation becomes, the greater the efficiency it almost automatically develops. Another view perhaps slightly less widespread, is that for each industry there is one only optimum size of firm. The former of these beliefs may be true of a very restricted number of activities, and possibly the latter of a larger group, but such limited information about the details of particular industries as is available suggests that the relationship between size and efficiency is still in general very debatable.

Apart from internal efficiency, there are, of course, many reasons which may make a monopolistic organisation the most desirable and which justify such Corporations as the B.B.C., or L.P.T.B. On the specific ground of efficiency, however, it is doubtful if it is possible, in general, to say that efficiency is necessarily conditioned by operations being carried on by firms of a certain size, or still less by an organisation which embraces the whole country.

In all cases it is a question of estimating, on the one hand, the advantages of large-scale production and of the elimination of the wastes which inevitably accompany competition, and, on the other hand, the value of a more widespread opportunity for talent coming forward, a close contact between initiative and responsibility, elasticity, rapid powers of adjustment to changing circumstances, and low overhead charges. Expressed in another way, the cost of running an industry can be split up into a number of items; enlarging the scale of operations affects these

items in different ways, some remaining unchanged, some showing a reduction per unit of output, some an increase. For instance, while certain overhead charges may be diminished as the scale of operations increases, those connected with administration and co-ordination usually increase.

How essential it is to consider each item of cost and its relation to the size of an organisation, before generalising about the effect of size on the total cost of all items, is well illustrated by the road transport industry. Like so many of our industries, its internal structure is in a state of flux, but at the present time a study of the costs of differing types of transport concerns would appear to show that there are many forms of organisation necessary to meet the very varying requirements of different aspects of the industry.

General statements about efficiency are more easily made than proved. Even where actual figures are available, variations in methods of accounting, together with such unsolved problems as that of the true apportionment of costs between standing charges and working expenses, or of deciding the "correct" basis for depreciation, make it unwise to draw comparisons from cost statements that are too precise.

Moreover, and the point is an important one, it is unlikely in practice that organisations of widely different size will be engaged in precisely the same type of work. In the examples about to be examined, for instance, the types of vehicle are similar, if not identical, and the comparisons are based on equal annual mileages per vehicle. But a 30-cwt. lorry doing 10,000 miles in intermittent work in a single neighbourhood is very different from the same lorry doing the same mileage over a regular long-distance cross-country route. Whilst a small contractor or owner-driver might cope quite successfully with the first type of work, it is fairly obvious that a big distributive organisation which requires the second type is better served by a correspondingly large transport organisation, which can carry reserves in the shape of vehicles and men to meet trade fluctuations and urgent demands.

With these qualifications, the schedule reproduced below is of considerable interest, showing as it does that in certain specific cases about which it has been possible to obtain accurate and definite figures, the larger concerns have no special advantage, and indeed that for limited mileages the small man seems to be able to operate more cheaply than his rivals.

The figures refer to 150 lorries, each of about 30-cwt. capacity.

Example 1 deals with the costs of about 100 vehicles supplied by different contractors to 15 Depôts in varying parts of the country. The figures are actually compiled in Liverpool, Newcastle and Manchester, but can be taken as typical for the whole of this group. They indicate the costs of well-organised "A" Licence Transport Companies, some operating regionally, but others in many parts of the country.

Example 2 deals with 22 vehicles operating under a Class "C" Licence ("Ancillary User") from one centre in the Midlands; that is to say, it gives the costs of a Company whose main operations are those of a manufacturing concern, but which operates its own vehicles for a portion of its distribution, less than 20 per cent.

Example 3 shows the costs of 30 lorries belonging, for the most part, to owner-drivers, though in one or two cases a contractor has as many as four lorries. These lorries operate under a Class "A" Licence.

These groups represent three different but important sections of the transport industry.

In both 1 and 2 there are figures down for administration; in the first case of £19 10*s*., and in the second of £36 18*s*. It is impossible to go into all the individual items by which administrative costs are made up in a large composite manufacturing industry, but it will be noticed that where such an organisation includes as a side line a transport department, the cost of administration per vehicle is higher than is the case with a company that is specialising on transport services only. This illustrates one of the objections to encouraging the "C" type of transport at the expense of the "A" type. A further disadvantage, of course, is that for all practical purposes the "C" licence holder cannot keep his costs down by arranging for "back loads."

In still greater contrast are the small owner-drivers or small contractors shown in column 3, who, for obvious reasons, have no administrative costs at all.

It may occasion some surprise that the figure for wages has been reckoned under standing charges and not under running costs, with the result that this item is identical for mileages of 10,000 and 20,000 per annum. The reason for this is that in the examples quoted conditions of work are such that the men are able to cover the larger distance without normally having to work overtime, whilst, on the other hand, a reduction in the distance travelled per vehicle would not make possible any

reductions in personnel. Another comment under the heading of wages is also perhaps pertinent. It is sometimes suggested that small contractors prosper because they pay low wages. This may be so, but in the present case the figure shown in example No. 3 is the Conciliation Board rate of 54*s*. per 48-hour week, which cannot be regarded as unduly low.

Some of the other points in the statement perhaps need explanation. Depreciation is lowest for the third group. This, however, is because in general this type of owner runs his vehicle for a longer time. As a result, while depreciation is reduced, it will be seen at the bottom of the column that there is an increase in the cost of repairs and an increase in oil and grease owing to loose bearings, slack pistons, etc.

The cost of petrol, it will be noted, is considerably higher in the third case. This is because the first two have bought on contract and in bulk, but the third section have bought individually from other people's petrol pumps. It is important to note this item, as some small contractors combine lorry hire service with a petrol station. This did not happen to be the case with the 30 vehicles investigated, but it is very frequently so throughout the country, and it is perfectly easy for small contractors to arrange some form of co-operative buying of their petrol supplies. The Commercial Motor Users' Association and the Associated Road Operators have indeed both instituted such schemes. If this were done it would make a very considerable alteration to the final costs and would make the third section not only the cheapest to run per mile for distances up to 10,000 miles, but also for distances up to 20,000 miles, reducing the total figures from £445 to £425 and £597 to £557 respectively.

There is one further point which should be taken into account in the third group. These lorries are all of the tipping type of vehicle, that is to say, the tare weight is rather heavier than for the other vehicles, which raises their registration fee from £25 to £30. While it would be perhaps unjustifiable to take this extra tare weight into the calculations, it would appear to be quite reasonable to eliminate the extra taxation charge of £5 from the comparative statement of running costs. If this is done the costs are reduced by a further £5 to £420 and £552. The effect of these further reductions is shown in the alternative figures for total costs per mile quoted; for example, No. 3, and qualified by the footnote "Tax and petrol on equal terms."

30-Cwt. Vans—Comparison of Costs.

	Example No. 1.	Example No. 2.	Example No. 3.
	£ s. d.	£ s. d.	£ s. d.
STANDING CHARGES:			25 0 0
Interest on Capital and Profit	30 0 0	[2] 11 0 0	11 10 0
Wages	[1] 159 0 0	207 16 0	140 8 0
Insurance (National Health)	4 3 11		
,, (Emp. Liability) .	1 0 0		
,, (Comprehensive) .	17 2 0	[3] 50 7 6	25 0 0
,, (Freight) . .	2 0 0		
Registration	25 0 0	25 0 0	30 0 0
Administration . . .	19 10 0	36 18 2	—
Garage and Washing . .	32 10 0	26 17 0	13 0 0
Replacement during Repairs.	15 0 0	—	—
R. & R.T.A. Licence Fee .	15 0	2 6	15 0
TOTAL PER ANNUM . .	£306 0 11	£358 1 2	£245 13 0
RUNNING COSTS:			
Depreciation	1·44	1·315	1·12
Tyres—32 × 6	0·32	0·178	0·336
Oil and Grease	0·10	0·048	0·53
Petrol	1·04	0·889	1·50
Repairs	0·80	0·917	1·30
TOTAL COST PER MILE .	3·70*d.*	3·347*d.*	4·786*d.*
Total costs for running 10,000 miles	£460 11·04*d.* per mile	£498 11·952*d.* per mile	£445 10·68*d.* per mile; £420 [4] 10·08*d.* per mile
RUNNING COSTS:			
Depreciation	1·2	1·096	0·552
Tyres	0·32	0·178	0·336
Oil and Grease	0·10	0·048	0·53
Petrol	1·04	0·889	1·50
Repairs	0·80	0·917	1·30
TOTAL COST PER MILE .	3·46*d.*	3·128*d.*	4·218*d.*
Total costs for running 20,000 miles	£594 7·128*d.* per mile	£619 7·428*d.* per mile	£597 7·164*d.* per mile; £552 [4] 6·624*d.* per mile

[1] Average.
[2] Interest on capital is charged at 4 per cent., but no allowance has been made for profit.
[3] Also includes various Factory Overheads.
[4] Tax and petrol on equal terms.

L. J. CADBURY

OFFICIAL PAPERS

Industrial Prices and their Relative Inflexibility. By GARDINER C. MEANS. 74th Congress, 1st Session. Senate Document No. 13, Washington, 5c.

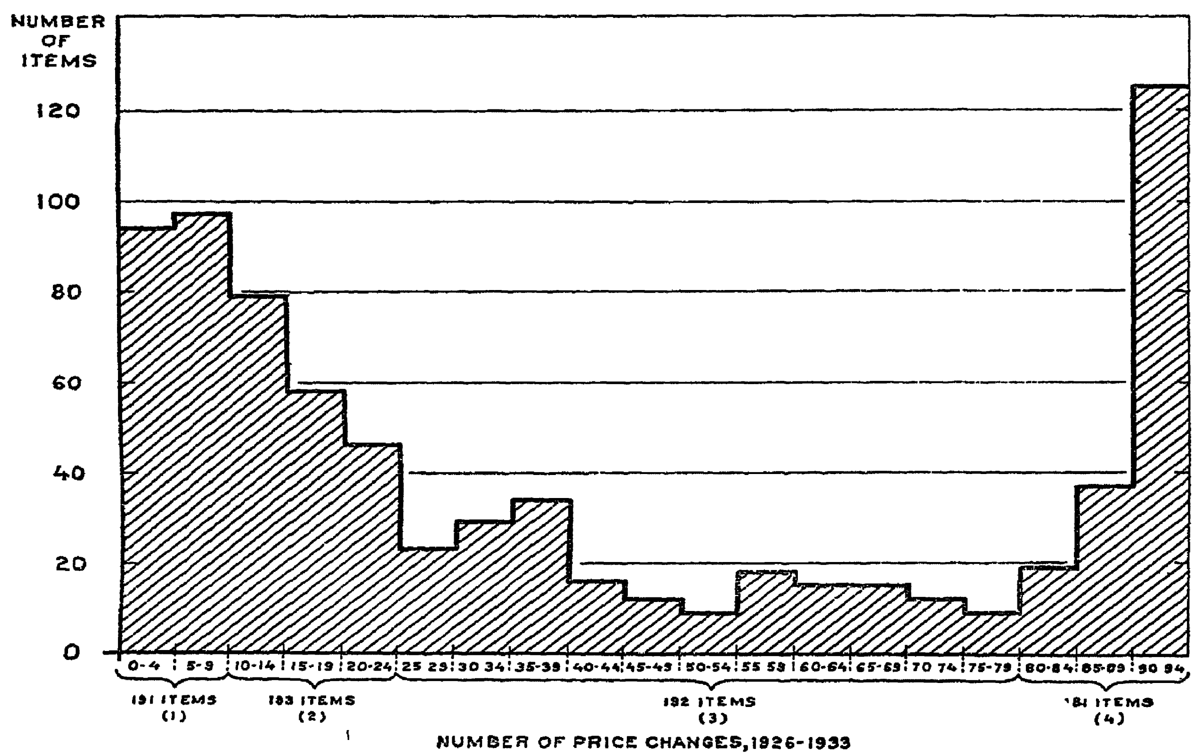
IN this brief pamphlet of 19 pages, supplemented by an equal length of explanatory appendices, Dr. Means, the economic

adviser on finance to the Secretary of Agriculture, presents a summary of an important and original statistical study of price changes (8 pages), a general analysis of the significance of the new data (4 pages), and a somewhat abstract and non-committal discussion of the policies they indicate (7 pages). Rather than attempt to summarise summaries we may here concern ourselves chiefly with the first two parts.

The statistical inquiry embodies an analysis of the data that went to the making of the Bureau of Labour Statistics' monthly

RIGID AND FLEXIBLE PRICES

747 ITEMS FROM B.L.S. WHOLESALE PRICE INDEX DISTRIBUTED ACCORDING TO FREQUENCY OF PRICE CHANGE



NUMBER OF PRICE CHANGES, 1926-1933

(1) CHANGED AT THE RATE OF LESS THAN ONCE EVERY 10 MONTHS.
(2) CHANGED AT THE RATE OF LESS THAN ONCE EVERY 4 MONTHS BUT MORE THAN ONCE EVERY 10 MONTHS
(3) CHANGED AT THE RATE OF MORE THAN ONCE EVERY 4 MONTHS AND LESS THAN 3 TIMES EVERY 4 MONTHS
(4) CHANGED AT THE RATE OF AT LEAST 3 TIMES EVERY 4 MONTHS

wholesale price index in the period 1926–33. 747 of the commodities included in it were grouped according to the number of times (out of a possible 96) their prices had changed in that period. The resulting table is here reproduced. It reveals that no less than 191 commodities, just over a quarter of the total, changed price fewer than ten times in that period of rapid economic change; and half the total, 374 items, changed fewer than twenty-five times, *i.e.* only once every four or more months. Rather less than a quarter of the total, viz. 181, changed more than ten times in the year on the average, and of these the majority changed almost every

month. The remaining quarter is distributed fairly evenly over the remainder of the scale, changing from 25 to 80 times in the eight years. There is thus a marked division between the two classes of very flexible and somewhat rigid prices. The remarkable extent of rigid prices would have been even greater if Dr. Means had not excluded " railroad and utility rates and a few composite items " from the figures he took, for these are familiarly stable items. A further inquiry, not perhaps quite extensive enough for all the conclusions drawn from it, showed that extent of the falls in price from 1929 to 1932 was roughly correlated with the number of changes over that period.

These figures indicate, the argument continues, that there are two essentially different types of market in operation: (1) the " traditional market " in which buyers and sellers meet to equate demand and supply at a flexible price—the type of market ordinarily thought of by economists; and (2) " administered markets," the significance of which is the burden of Dr. Means' pamphlet and the foundation of his acceptance of N.R.A. and A.A.A., in which producers state a price, held constant for considerable periods, at which they are willing to produce and sell as much as is demanded.[1]

Consequently, in the first type of market unfulfilled expectations give rise to price changes, but tend to leave production and consumption stable; while in the second type price is stable, but production (and hence employment) fluctuates. The following figures for ten major industries from 1929 to the spring of 1933 are printed in support of this thesis, as well as several charts of the course of prices and production in different industries and groups of industries.

	% Drop in Prices.	% Drop in Production.
Agricultural Implements	6	80
Motor Vehicles	16	80
Cement	18	65
Iron and Steel	20	83
Auto Tires	33	70
Textile Products	45	30
Food Products	49	14
Leather	50	20
Petroleum	56	20
Agricultural Commodities	63	6

[1] It is well to remember that we are dealing with wholesale prices. Retail prices, all the world knows, are almost all administered prices. But they are sufficiently frequently changed for them to approximate to " market prices."

The industries at the top of this list are those with administered prices; those at the bottom have market prices. Thus the first class gives us the stable, and the second the flexible prices.

In explanation of this dichotomy, it must be noticed that administered prices are not all or mainly monopoly prices. One can imagine, though there is no concrete example, monopolies controlling production and allowing price to fluctuate, or changing controlled prices. The true explanation lies in large-scale production, and the reduction in the number of firms serving the market to the point that individual firms by altering output can alter price, and in consequence behave as monopolists.[1]

In these circumstances, according to Dr. Means, it is to the interest of the individual firms to hold price and reduce output, and employment, when demand falls. But this will not account for the extreme rigidity of prices (though it certainly suggests some rigidity), nor for the rigidity in the period before 1929, without additional conditions. Of these the simplest would seem to be (1) capacity continually expanding before 1929 ahead of production, (2) roughly horizontal prime cost schedules, (3) equal elasticities over the relevant ranges of the successive demand schedules—a condition that would be fulfilled if the principal variant were employment. Though this is a guess, an economy as vast as the American probably satisfies these conditions. However, an important additional or alternative explanation is to be found, I should imagine, in administrative and marketing convenience, and the tacit avoidance of the familiar possibility of price wars in conditions of imperfect competition.

Whether or not these are their true causes, Dr. Means attaches the greatest importance to the presence of rigid prices. It is no less than "the basic cause of the failure of *laissez-faire*." The new policy their presence makes possible, when demand drops, "throws workers out of employment, reduces their money income, and further reduces the demand for goods." And "if all industry operated in this way, the result of an initial drop in demand would be an overpowering depression, unless some other factor, monetary or otherwise, intervenes to prevent the initial drop in demand from destroying demand entirely."[2] It would certainly demand, for the maintenance of a reasonable volume of employ-

[1] On the growth of large corporations in America, see Berle and Means (the present author), *The Modern Corporation and Private Property*, and the review of it by Professor Florence in the last number of this JOURNAL.

[2] See Dr. Means' paper entitled "Price Inflexibility and the Requirements of a Stabilising Monetary Policy" in the *Journal of the American Statistical Association*, Vol. 30, 1935, where also he repeats his main statistical evidence.

ment, far greater flexibility in the monetary system than is easily imagined. And it is also easy to show that in practice—*i.e.* if we assume only a reasonable mobility of labour and flexibility of tastes—where rigid prices cover not the whole but only a substantial section of the economy, their presence will greatly aggravate the fluctuations in price of the flexible remainder. This will especially be the case where the volume of production in the remainder is hard to reduce, as *e.g.* in agriculture, and this would appear to offer a partial justification of marketing schemes for raw materials as a defence against the turbulence of industry.

Dr. Means has revealed, therefore, an additional rigidity in contemporary capitalism of the greatest importance. Rigid wages and rigid interest payments are familiar, but rigid prices, or at least their astonishing extent, are new and somewhat startling. Further inquiries indeed may reveal that their consequences to the danger and depth of depressions are greater than those of the others. It is much to be hoped that both his theoretical and statistical researches will be continued in America and in this country. But, though Dr. Means' remarks on the subject are interesting, the bearings of his work upon policy would seem to call for longer discussion, and, perhaps, a more open platform than can be found by a prominent official of a government already ahead of business opinion.

D. M. Bensusan-Butt

King's College,
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OBITUARY

Heinrich Dietzel (1857–1935)

Prof. H. Dietzel, who died at Bonn on the 22nd of May, 1935, was the most distinguished representative of the "neo-classical" school of German economists. When he entered upon his academic career, half a century ago, nearly all German chairs of economics were occupied by members of the "historical" school who denounced the teaching of the English classics as shallow dogmatism of antiquated rationalists, and the popular economics of that period were more and more influenced by Karl Marx and his disciples. Even the Austrian school of economic theory was more inclined to emphasise what separated it from the classical tradition than what it had in common with the method of Adam Smith. At this critical time Dietzel vigorously upheld

the banner of the classical school and firmly defended the old "abstract" method and the policy of economic freedom against the united attacks of one-sided "historians," Marxians and Austrians. He had been strongly influenced by Adolf Wagner, who called him his "only" disciple. Wagner himself was the successor of K. H. Rau, who, in the 'forties and 'fifties, had greatly contributed to popularising the doctrine of the English classics in Germany. But even Wagner turned, in his later life, towards state socialism and protectionism, while Dietzel remained faithful to the ideas of economic liberty. In numerous publications Dietzel tried to show its advantages in stimulating national productivity, mitigating social conflicts and furthering economic progress. It was not his ambition to found a new school of economics in Germany; but his ideas had a wide influence. When he reached the age of 70, a good many of his former pupils held chairs in German Universities or were high government officials.

Dietzel's chief contribution to economic theory is his *Theoretische Sozialökonomik* (1895), in which he dealt in a masterly way with the methods of economic research and the elementary phenomena of economic life, chiefly the question of value. The problems of distribution were treated by him in connection with controversies on actual questions of fiscal or social policy; he revived, for instance, the productivity theory of wages and analysed the causes of economic progress and economic crises. He was also greatly interested in the various aspects of socialism. His books and essays on the ideas of Rodbertus and the early socialists are most valuable. His later essays chiefly dealt with various economic questions that were eagerly debated in Germany: free trade, trade unions, public loans, taxation.

He fought against protectionism and interventionism all his life. His publications, famous for their lucidity, were always read with great respect; but in most cases the majority did not follow his advice. Thus he was often disappointed; he very much regretted the course events took in Germany after the War.

Dietzel was an excellent, inspiring teacher. It was a privilege to belong to his "Seminar." At the age of 28 he was appointed Professor at the Baltic University of Dorpat; five years later (1890) he was called to Bonn, where he spent the rest of his life although several other chairs of economics were offered to him.

PAUL ARNDT

CURRENT TOPICS

AT the Norwich meeting of the British Association (September 4–11), Professor J. G. Smith, whose address on "Economic Nationalism and International Trade" is printed above, presided over the deliberations of Section F (Economic Science and Statistics). Among the contributions were papers by Mr. Colin Clark on "The World's Food Supply," J. C. Gilbert on "Some Monetary Problems of International Trade," and R. A. Hodgson on "Occupational Changes and Population Movement in S.E. England." Professor L. M. Fraser surveyed "Present-day Economic Problems in Germany" and Miss L. S. Sutherland pleaded for the preservation and classification of business records in a paper entitled "The Use of Business Records in the Study of History." Dr. A. Plummer examined the problems of British Air Transport, and a paper of considerable local interest was contributed by Mr. P. A. Forrester on "The Economic Causes of the Localisation of Industry in Norwich." Arising out of the presentation of the report [1] of the sectional research committee on the Chronology of the World Crisis, there was also a discussion on the depression, in which Professor J. H. Jones, Sir Josiah Stamp, the Bishop of Norwich, the Marquess of Lothian and others took part; but it was the joint discussion with Section I (Physiology) on "Economic Aspects of Diet" which provoked most interest during the meeting. This symposium was opened by Professor E. P. Cathcart, F.R.S., who was followed by Professor K. Neville Moss on the special case of the coal-miner and by Sir John Orr, F.R.S., who pleaded for government aid in distributing the glut of agricultural produce among the underfed population. Some of the more purely economic aspects were examined by Professor P. Sargant Florence, who urged a reconsideration of the basis underlying the calculation of the Cost of Living Index-number of the Ministry of Labour. Other economists who contributed to the discussion were critical of the statistical material submitted by some of the scientists and of the deductions they sought to draw from it. The continued popular interest, however, in the several questions raised will, no doubt, lead to the further examination of this very important point.

In the afternoons there were three sessions (Section F) dealing with problems of business organisation and administra-

[1] This has been published under the title *Britain in Depression* (Pitmans, pp. 473, 10*s*. 6*d*.).

tion. One of these was devoted to a discussion on the probable future trends of scientific management in Great Britain, to which Mr. Hargreaves Parkinson contributed a paper on "Industrial Management and the Investor." Dr. E. S. Pearson examined the rôle of probability theory in the control of quality in production and Mrs. Ethel M. Wood spoke on "Domestic Management of To-morrow." At the other sessions of this sub-section there were discourses by Dr. J. A. Bowie on "The Universities and Business," by Mr. L. Urwick, Mr. T. G. Rose and Dr. K. G. Fenelon on "Problems of Amalgamation and Decentralisation," and by Mr. A. P. Young and Mr. O. W. Roskill on "The Place of the Individual Business in a Planned Economy."

In 1936 the Association will meet in Blackpool from September 2 to 9, for the first time under the general presidency of an economist, Sir Josiah Stamp. Particulars of the arrangements for Section F can be obtained from the Recorder of the Section—Dr. K. G. Fenelon, College of Technology, Manchester, 1.

The next Annual Conference of the Association of University Teachers of Economics will be held at Queen's College, Oxford, during the week-end 3rd–6th January, 1936. The programme will include discussions on "International Trade in the Absence of an International Standard" (to be opened by Mr. Barrett Whale) and "The Approach to Problems of Public Finance" (to be opened by Dr. Benham). Arrangements are also being made for discussions on the Iron and Steel Industry and on Population Trends.

Full particulars of the Conference programme should reach members of the Association early in December. Non-members who are engaged in University teaching of Economics or kindred subjects are invited to apply to the Hon. Secretary, Mr. Stanley Parris, University College, Cardiff.

The Senate of the University of London invite applications for the University Chair of Statistics tenable at the London School of Economics, which will become vacant at the end of the present session owing to the retirement of Prof. A. L. Bowley. Salary £1,000 a year. Applications (12 copies) must be received not later than first post on 31st January, 1936, by the Academic Registrar, University of London, S.W. 7, from whom further particulars should be obtained.

Two further volumes in the new *Series of Reprints of Scarce Works in Political Economy*, published by the London School of Economics, are now available, namely, *Industrial Combination*, by D. H. MacGregor, and *Protective and Preferential Import Duties*, by A. C. Pigou. The published price of each is 6*s*. But, as before, copies are available to members of the Royal Economic Society who order through the Assistant Secretary, Mr. S. J. Buttress, 6, Humberstone Road, Cambridge, at the reduced price of 5*s*.

RECENT PERIODICALS AND NEW BOOKS

Journal of the Royal Statistical Society.

PART III, 1935. *Retail Trade Statistics in Different Countries.* I. DOUGLAS. *The Use and Misuse of Economic Statistics.* A Discussion. Opened by R. GLENDAY.

PART IV, 1935. *The Labour Bill and Output on Arable Farms.* R. McG. CARSLAW and P. E. GRAVES. *The Course of Wage Rates in the United Kingdom,* 1921–1934. E. C. RAMSBOTTOM. *Returns in a Growing Industrial Economy.* K. GRUNWALD.

Economica.

AUGUST, 1935. *The Maintenance of Capital.* F. A. VON HAYEK. *French Monetary Policy and its Critics.* PHILIPPE SCHWOB. *The Nature of Aggressive Selling.* W. H. HUTT. *The Extent of the London Discount Market in the Middle of the Nineteenth Century.* W. T. C. KING. *Gold, Unemployment and Capitalism.* CHARLES RIST.

World Survey.

JULY, 1935. *Investigation of Industrial Development. Power's Service to the World.* F. ZUR NEDDEN. *Consuming Power in the Machine Age.* R. M. FINDLAY.

The Sociological Review.

OCTOBER, 1935. *Democracy and Capitalism in Max Weber's Sociology.* W. FALK. *Bias in Social Study.* G. C. FIELD. *The Sex-Ratio among Negroes.* W. M. COUSINS.

The Eugenics Review.

JULY, 1935. *Eugenics, Academic and Practical.* PROF. R. A. FISHER. *Prevention of Hereditary Blindness.* J. M. BICKERTON. *Chemical Contraception.* J. R. BAKER. *Voluntary Sterilisation Bill.*

International Labour Review.

JULY, 1935. *The Economic Implications of Material Progress.* A. G. B. FISHER. *Rural Hygiene and Health Co-operative Societies in Yugoslavia.* M. COLOMBAIN. *Workers' Education in the United States.* A. S. CHEYNEY. *The Contract of Employment, II.* E. HERZ.

The Canadian Journal of Economics and Political Science.

AUGUST, 1935. *Papers presented at the Annual Meeting of the Canadian Political Science Association, May* 1935 *on : Inflation and Inflationism ; Various Aspects of Canadian Federalism ; The Employment and Social Insurance Bill ; The Natural Products Marketing Act,* 1934 *; Public Policy in Relation to the Wheat Market ; The Pulp and Paper Industry.*

The South African Journal of Economics.

JUNE, 1935. *The Gold Mining Industry and the Gold Standard.* A. J. LIMEBEER. *Some Doubts concerning early Land Tenure at the Cape.* H. M. ROBERTSON. *Holding Companies and the Investor.* HERBERT GREENWOOD. *Some Fundamental Questions on Economic Planning.* PROF. E. WHITTAKER. *The Dairy Industry in South Africa.* J. G. KNEEN.

The Quarterly Journal of Economics.

AUGUST, 1935. *Dividends, Interest, Profits and Wages,* 1923–35. T. J. KREPS. *The Stabilisation Doctrines of Carl Snyder.* H. L. REED. *The Term "Favorable Balance of Trade."* F. W. FETTER. *Sociological Elements in Economic Thought. II. The Analytical Factor View.* TALCOTT PARSONS.

The American Economic Review.

SEPTEMBER, 1935. *Reciprocal Trade Agreements Act of* 1934. A. BERGLUND. *United States Foreign Trade in Copper,* 1790–1932. R. B. PETTENGILL. *Federal Reserve Policies,* 1927–1929. A. C. MILLER. *Interest as Cost and Capitalisation Factor.* F. MACHLUP. *Just Price in a Functional Economy.* B. W. DEMPSEY. *Expenditure of Wisconsin Property Tax.* C. F. WEHRWEIN.

The Journal of Political Economy.

AUGUST, 1935. *Interrelations of Demand, Price and Income.* H. SCHULTZ. *The Fluid-Milk Programme of the Agricultural Adjustment Administration.* J. CASSELS. *The Chilean Nitrate Industry.* D. MCCONNELL. *The Trend of Savings,* 1900–1929. C. LEWIS. *Berle and Means on the Modern Corporation.* B. W. LEWIS.

The Annals of the American Academy of Political and Social Science.

JULY, 1935. *Socialism, Fascism and Democracy.*
SEPTEMBER, 1935. *The State Constitution of the Future.*
PAMPHLET NO. 2. *Financing New York City.* W. WHYTE.

Wheat Studies (Stanford, California).

JUNE, 1935. *International Wheat Policy and Planning.* This Study begins with a brief historical survey of the attempts at wheat control on an international scale from the beginning of the War up to the Conference of 1933–35, and goes on to consider the theoretical aspects of planning : the problem of the development of a surplus for which importing countries are largely responsible, the international movement of wheat, the standpoints of exporters and importers and their respective quotas and acreages, the control of price, and finally methods of reducing surpluses. In the conclusion are set forth the technical difficulties of organising and controlling wheat, which is not inherently adapted to a form of planned international control.

SEPTEMBER, 1935. *World Wheat Survey and Outlook, September,* 1935. The prospects of a good world wheat crop for 1935 were ruined by rust in the North American spring-wheat belt and drought in Argentina, and it will probably be less than that of 1934. Stocks carried into 1935–36 were smaller than those of last year, and

world wheat supplies are likely to be the smallest since 1925, and the total world carry-over should regain normal proportions. World net exports may approximate to 560 million bushels, export surpluses exceeding import requirements by a narrow margin. Canada will probably export much of her accumulated surplus, and her newly-formed Grain Board will be in a position to influence world trade and prices. These factors, together with the apathy of the futures market, make it possible to forecast higher world prices between mid-September and the end of December.

Econometrica.

JULY, 1935. *Suggestions on Quantitative Business Cycle Theory.* J. TINBERGEN. *On the Independence of* k *Sets of Normally Distributed Statistical Variables.* S. S. WILKS. *A Macrodynamic Theory of Business Cycles.* M. KALECKI.

OCTOBER, 1935. *The Mathematical Distributions Used in the Common Tests of Significance.* R. A. FISHER. *Annual Survey of Statistical Information: Capital Formation and the Flow of National Income in the United States.* C. F. ROOS. *The Marginal Utility of Money in the United States from* 1917 *to* 1921 *and from* 1922 *to* 1932. F. V. WAUGH. *La dynamique de la circulation.* L. AMOROSO.

Revue d'Économie Politique.

MAI–JUIN, 1935. *Le mouvement de la population.* J. BOURDON. *Le mouvement des prix.* R. RIVET. *Les revenus privés et les consommations.* L. D. DE BERNONVILLE. *La Balance des Comptes.* L. RIST ET P. SCHWOB.

JUILLET-AOÛT, 1935. *L'Oeuvre scientifique de quelques économistes étrangers: Werner Sombart.* H. HAUSER. *Essai sur la thérapeutique de crise.* R. COURTIN. *Corporatisme,* 1935. G. PIROU. *Secteurs "abrité" et "non abrité" dans de déséquilibre actuel de l'économie française.* J. DESSIRIER.

Revue de L'Institut de Sociologie.

JUILLET–SEPTEMBRE, 1935. *Pourquoi commémorer le Centenaire de la "Physique sociale"?* E. MAHAIM. *Discours de M. Bovesse. Hommage à Adolphe Quetelet, Statisticien* 1796–1874. A. JULIN. *Quetelet et la Philosophie.* E. DUPRÉEL. *Quetelet's "Average Man" in Modern Scientific Research.* F. H. HANKINS. *Adolphe Quetelet et la Criminologie.*

Weltwirtschaftliches Archiv.

SEPTEMBER, 1935. *Die Bedeutung des Kapitalangebotes für den industrialisierungsprozess.* CARL SNYDER. Statistical records of the industrial development of the United States reveal a constantly parallel increase in the amount of capital investment derived from the profits of industry and a rather slower increase in production per worker, due to increased mechanisation, and not to the increased efficiency of the workers. This has led to higher nominal and real wages. Any interference with profits must reduce the supply of capital, and the author argues from this that the greater the concentration of income in the hands of the few, the greater the capital supply, and therefore the greater the gain in national well-being. *Zur Theorie des Geldmarkts.* F. LUTZ. A study of some

problems of the money market. The effect of a decrease of the government floating debt by funding or out of surplus revenue is to ease the money market and cause the banks to buy up securities. Depression has a similar effect. The influence of movements of foreign exchange varies under paper and gold standards. Finally a study is made of the power of the Central Bank over the money market, and statistical illustrations are given. *Zum Gesetz vom abnehmenden Bodenertrag.* DR. P. KLAB. None of the three divergent theories on the relation of costs and returns in the yield of agricultural production (Liebig's, Breuning's and Mitschlerlich's) is really satisfactory, for within the framework of the general theorems of increasing, constant or diminishing physical yields the law of diminishing returns on land represents a special case which cannot be generalised because of its specific derivation. *Der Balkanpakt.* V. BAJKIĆ. The Balkans have always been the storm centre of Europe. The pact of February, 1934, has brought political peace, and there is every prospect of economic and cultural co-operation between the states, including Bulgaria.

Jahrbücher für Nationalökonomie und Statistik.

AUGUST, 1935. *Vulgarökonomie und Nationalökonomie.* PROF. R. MICHELS (Rome). Since the War, Economics as a pure science has fallen into disrepute owing to the conflict between economists and politicians. The concept of Adam Smith's "economic man" is outworn, and Child's dictum that "the merchants are not always the best judges in Trade" is nearer the truth. Economic Theory is too abstract, and should be applicable to concrete present-day problems. This is being achieved only in the Fascist Corporate State, where consumers are protected by the Government both against the abuses of monopolies and the chaos of unfettered competition. *Die soziale Frage im Betriebe.* DR. R. SCHWENGER. Labour unrest is largely due to the problems of management in individual works. The author distinguishes three roots of the trouble, and proposes solutions for each. The first, technical difficulties, arising from the speed and nature of mechanisation, could be diminished by adjusting the machinery to individual men; the second, economic difficulties, by the establishment of a universal norm for piece-work and a greater degree of self-government in individual shops, as in Bata factories in Czechoslovakia. The third, social causes, are the most fundamental, and call for a scientific and unified State policy. *Neuordnung des Bankwesens.* DR. A. SOMMER. The Bank Crisis in July 1931: the position before it, its nature, and measures taken to deal with it. The Bank Enquiry, 1933. Recommendations, Proceedings and Final Report of the Committee. State Decree concerning Credits. The establishment of a Board of Control and Reichskommissar and numerous regulations concerning Liquidity, Premises, etc. It is pointed out that whereas the measures taken in 1931 were purely for an emergency, those described above are part of a new and systematic reorganisation of economic life. *Die Entwicklung des internationalen Geld- und Kapitalmarktes und der Märkte einzelner Länder während des Jahres* 1934.

SEPTEMBER, 1935. *Produktivität und Rentabilität in der Volkswirtschaft.* H. VON STACKELBERG. "Productivity" is an economic, and not a technical term. "Rentability" is the condition of obtaining a

yield sufficient to cover total costs, and is thus the driving force of production. Private enterprise acting on this principle seeks the best and most economical means of production, but under *laissez-faire* does not always achieve this. The State is justified in interfering by means of price regulation, etc., in order to influence the degree of rentability and to turn the individual advantage into that of the nation as a whole. *Das Zeitmoment in der Theorie der Produktion.* E. SCHNEIDER. Insufficient attention has hitherto been paid by economic theory to the analysis of production in relation to the Time Factor. Bohm-Bawerk's definition of an "absolute period of production" is useless, because it is impossible to measure this, and even if it were possible, the concept of such a period is of little or no value in the analysis of modern agricultural and industrial production. It would be better to present a simple and realistic analysis of actual processes in the industrial production. *Die Ablösung der grundherrlichen Lasten in Mitteldeutschland.* F. LÜTGE. An historical account of the freeing of the peasants from manorial charges in Central Germany during the middle of the last century, with detailed descriptions of the different decrees and their effects in Prussia, Westphalia, Erfurt and Saxony. *Die Neuordnung der Industrie innerhalb der Organisation der gewerblichen Wirtschaft.* E. BARDEY. Before March, 1933, there was no systematic organisation of industrial association. Membership of Employers' Federations was voluntary, and members could both choose what particular organisation to belong to and withdraw at will. Other weaknesses were: no clear definition of the relations of individual firms to one another or of their sphere of activity, thus leading to duplication, heavy financial burdens unequally distributed among members and democratic, parliamentary principles of government leading to inefficient operation. Reorganisation was brought about with the advent of the new régime, and the character of the organisations radically altered.

OCTOBER, 1935. *Heinrich Dietzel. An Obituary Notice.* A. WEBER. *Die Ablösung der grundherrlichen Lasten in Mitteldeutschland.* F. LÜTGE. The conclusion of the article in the previous number, dealing with the decrees in various Dukedoms and Principalities in Saxony, and a final summary describing certain universal characteristics of the measures and the effect of the revolutionary movement of 1848. *Die Neuordnung der Industrie innerhalb der Organisation der gewerblichen Wirtschaft.* E. BARDEY. The author, in the concluding article of this series, treats the relationship between the employers' associations and the "Deutsche Arbeitsfront" set up in the Leipzig Decree of March, 1935. He then describes the character of the new organisations—the old ones having been finally liquidated in June, 1934: six "State" groups, one of which, "Industry," is divided into seven main groups, each of which is divided into "Economic" groups, which may be further divided and subdivided. He contrasts this organisation favourably with the old one, as eliminating redundance and exercising a stricter control over individual interests, but criticises the effects of the right to appeal, which may delay decisions and their execution. *Die Frauenarbeit.* O. MICHALKE. A survey with statistical illustrations of the number and occupations of women working in Germany from 1925 to 1933, showing an increase from 36 to 39 per cent., and from 1933 to 1935, showing a decrease from

over 40 per cent. to about 32 per cent. of men employed. The National Socialist policy may be justified on either social or economic grounds; it should be their aim so to improve the conditions of agricultural and domestic labour that women will no longer wish to enter industry. It is advisable to have a reserve of female labour to call upon when economic conditions allow it.

Schmoller's Jahrbuch.

AUGUST, 1935. *Natürliche Selbstgenügsamkeit und Geld in der alten Bauernwirtschaft.* MAX RUMPF. This extract from a book on "Deutsches Bauernleben" deals with the development and rôle of money economy in the life of the German peasant. Examples are first given of completely self-sufficing peasant communities the members of which produced enough food, clothing, etc., to satisfy their own needs, and where money had little importance, and also of estates where peasants were paid in money wages. A detailed analysis, with numerous quotations, is made of the peasant's attitude to money—his avaricious tendencies, his annual reckonings, the danger of his spending too much on building, and so on. The women are generally in control of the purse, which sometimes consists of a single fund and sometimes of several stocks of money earmarked for different expenditures. *Der Universalismus in Sozialreform und Genossenschaftswesen bei V. A. Huber.* G. HUBERNAGEL. An economic and social system may be ordered either from the point of view of the individual or of the community. Huber wrote in favour of the second or "universal" standpoint, not of the subjection of the individual to Society, but of the promotion of the welfare of the individual as a means to promoting the welfare of the community. This could be attained, he said, along the path of Evolution, not of Revolution, as in contemporary England, by the State granting freedom of association to groups organised on economic (*i.e.* for consumption purposes) as opposed to industrial (*i.e.* for production purposes) lines. Huber was half a century in advance of his time, and his contribution to social reform was recognised neither by his Liberal nor his Conservative contemporaries. *Das Reutlinger List-Archiv.* DR. A. SOMMER. *Ragnar Frischs, "Neue Verfahren zur Messung des Grenznützens."* H. VON STACKELBERG. *Die pädagogische Aufgabe der "Allgemeinen Steuerlehre."* G. SCHMOLDERS. Since the War the "Science of Finance" has changed its character, and economic theoreticians have been looking for a satisfactory basis. Kerschlag in his Introductory Study criticises previous theories of taxation as being merely feeble Theories of the State and its relation to the individual. But his own book lacks system. The author of the article then outlines what, in his opinion, are the essentials of a Theory of Taxation.

Zeitschrift für Nationalökonomie.

JUNE, 1935. *Die Bedeutung der Produktionsperiode für die Krisentheorie.* H. S. ELLIS. Eight different theories of the "period of production" are examined. Böhm-Bawerk's measures capital intensity, but provides no indication of the length of the process; the same applies to the definition which measures the time required to transform capital instruments to suit the new relation of wages

and interest. The only satisfactory concept is that it is the length of time between the investment of new capital and the appearance of the finished consumable goods. This analysis is used in order to reconcile the apparently contradictory theses of Schumpeter and Hayek. *Bemerkungen zur Kapital- und Zinstheorie.* P. JOSEPH und K. BODE. The authors criticise Böhm-Bawerk's theory of Capital as misrepresenting and exaggerating the importance of the Time element in production. After tracing the historical origin of this misconception, they give a simpler and more realistic account of the nature of Capital and Interest. *Zur Theorie der Produktionsperiode.* O. MORGENSTERN. The scientific theory of the period of production cannot be used to measure the length of the roundabout means of production which provides no indication of where production begins and where it ends. The so-called Law of "Greater Productivity by more roundabout means of production" is caused by a mathematical chance, and must be replaced by the Theory of Costs, which can more easily be reconciled with the time element. It is also impossible to calculate the average length of the whole or of particular processes of production. *Zeit und Produktion.* R. VON STRIGL. The question of the importance of the Time element in the process of production is discussed and elaborated further. *Wesen und Wege des Finanzausgleiches.* R. PFAUNDLER.

AUGUST, 1935. *Professor Pigou's Theory of Unemployment.* REDVERS OPIE. *Bemerkungen über Nutzen und Kosten.* F. H. KNIGHT. This is a continuation of an essay in the March issue of the *Zeitschrift*, giving a new statement of the theory of costs. Starting from certain preliminary and methodical questions concerning the relation between costs and prices, both static and dynamic, the author treats the factors of production and elaborates the ideas of "productive capacity" and "economic conduct" in accordance with his own theory. He then discusses certain questions in connection with the factor Labour, and concludes with a comparison of his own theory with those of Jevons, Marshall and others. *Vollkommene Voraussicht und wirtschaftliches Gleichgewicht.* O. MORGENSTERN. The author explodes the idea that in order to establish the theory of perfect equilibrium it is necessary first to assume perfect foresight. The distinction between a general equilibrium characterised by perfect foresight and a monetary equilibrium characterised by imperfect foresight is equally untenable. The elements of expectation and anticipation introduce greater difficulties than has previously been supposed. A distinction is made between technical "foreseeability" and effective "foreseeability" which allows for the notion of risk, and the absurdities of perfect foresight are illustrated in the cases of duopoly and perfect competition. Finally possible lines for further research are indicated. *Die Krise und die deutsche Handelspolitik.* A. CABIATI. *Formen der Angebotsanpassung und wirtschaftliches Gleichgewicht.* O. LANGE.

Archiv für mathematische Wirtschafts- und Sozialforschung.

No. 2, 1935. *Statistische und mathematische Betrachtungen über einige geldliche Ausgleichsprobleme der Verwaltung.* F. BURKHARDT. A discussion of the principles upon which the proceeds of national taxation should be distributed among local and provincial authori-

ties. The author maintains that partially conflicting tests (*e.g.* tax contributions and population) can be reconciled by the method of least squares. *Über den Reziprozitätssatz der Gewinntheorie.* A. BERGER. An investigation in the mathematics of insurance. *Die grundliegenden Hypothesen der neueren Preisanalyse.* H. v. STACKELBERG. A comparison between the formulæ used for fitting demand functions by Moore, Schultz, Staehle, and Leontieff. *Elastizität von Angebot und Nachfrage.* A. TIMPE. Some new suggestions for fitting demand and supply functions; for example, a method of allowing for changes in elasticity over time.

No. 3, 1935. *Arbeitszeit und Produktion (II).* E. SCHNEIDER. Dr. Schneider continues his formal analysis of the effects of changes in the working day. The effects of induced changes in capital equipment are now allowed for. *Der Geltungsbereich einiger neuerer Schutzzollargumente.* O. v. MERING. A criticism of some points in Haberler's *International Trade,* with special reference to the consequences of imperfect competition. *Kosten und Wirkungen der Reklame in theoretischer Beleuchtung.* F. ZEUTHEN. An elaborate diagrammatic analysis of the effects of advertisement on the equilibrium of the firm. Dr. Zeuthen is unequalled for the amount he can get into two dimensions. *Reserve, Sicherheitszuschlag und Selbstbehalt.* W. KONAU. *Die Aufnahme von Fremdgeld bei Bausparkassen und dessen Einfluss auf die mittlere Wartezeit.* C. LANGE.

De Economist.

MAY, 1935. *Eenige theoretische beschouwingen over de kapitalisatie van ondernemingen.* J. C. M. VAN RHEE. In an undertaking, capital and initiative are taken as the two productive factors. A discussion of the theoretical principles determining the division of the product between these. *De Nederlandsche bevolking,* I. C. A. VERRIJN STUART. The first part of a discussion of the census return of 31st December, 1930. The birth-rate and the death-rate are both slowing down, and so likewise is the rate of increase of the population. The writer contemplates a stabilisation of the population at about 10 or 11 millions. A detailed analysis of population statistics, especially of the birth-rate, from various angles is given.

JUNE, 1935. *Het conjunctuurverloop in Engeland sedert begin,* 1919. A. J. W. RENAUD. A detailed statement of the course of wages, unemployment, prices, etc., in Great Britain and Ireland since 1919. *De Nederlandsche bevolking, II.* C. A. VERRIJN STUART. A continuation of the discussion dealing with other aspects of population (marriage; age distribution; religion; housing, etc.).

Giornale degli Economisti.

JULY, 1935. *Sul moviminto dei capitali fra gli Stati Uniti e l'estero nel dopoguerra.* V. DOMINEDÒ. A study of American foreign investment since the War. *La ripartizione dell'imposta e la legge di distribuzzione dei redditi.* L. ROSSI. A brief note on the influence of the distribution of incomes on the burden of taxation on different sections of the community. *Il significato di alcune moderne teorie matematiche della dinamica economica.* A. BORDIN. The last of a series of three articles dealing with the application of

mathematical methods to dynamic problems of economics. The views in particular of Amoroso, Kaleki, Frisch and Fanno are discussed. *Osservazioni sul controllo dei prezzi in Germania.* F. Di Fenizio. The recent measures adopted by the State in Germany for restraining price rises in the face of increasing cost burdens, largely imposed by the State itself, have only been successful hitherto because of the cushion of monopoly profits prevailing in the past in so many branches of industry under cartel management. The rapid exhaustion of these excess profits is likely to cause such measures soon to impinge on normal profits and thus to present both industry and the State with increasingly difficult problems in future.

August, 1935. *La creazione dei crediti bancari.* A. Gambino. A discussion of the verbal and other ambiguities latent in the controversy over the power of the banking system to "create" credit. The writer argues that the view, that every credit opened by the banks necessarily leads to the creation of a corresponding deposit in the sense that it "forces" the public under all circumstances to grant an equivalent credit to the banks, is erroneous. But he agrees with the view that the banks have the power to create credit in so far as they can induce the public to redeposit additional funds lent by the banks. *Quantità economiche e teoria corporativa.* Professor B. Foà holds that the main objectives of the Corporative State in Italy in its economic aspect should be: "(*a*) to maximise the value (expressed in terms of economic welfare and hence only indirectly, and with numerous qualifications, in terms of money) of the normal flow of the national dividend; (*b*) to minimise the value of that fraction of the national income which may be held to consist of 'privileged' incomes; (*c*) to increase (in comparison with the type of market which is predominantly liberalistic) that fraction of the national income which is normally destined for relatively distant ends as against that part which is normally destined for relatively near ends; (*d*) to maximise the stability of employment, understood in a wide sense as an index of stability of economic relations, once these are in conformity with the requirements of (*a*), (*b*) and (*c*); (*e*) to increase (if and in so far as this is not inconsistent with a growth in the long run of the national dividend) that fraction of the national dividend which is appropriated by the working classes." *Rettifica.* A. Breglia.

Index (Stockholm).

July, 1935. *International Trade and Monetary Policy.* B. Ohlin.

August, 1935. *The Approach to Bilateralism.* F. Hilgerdt.

September, 1935. *Japan and the World Economic Depression.* I. E. F. Penrose.

NEW BOOKS

British.

ALLEN (R. G. D.) and BOWLEY (A. L.). Family Expenditure; a Study of its Variations. London: P. S. King & Son, 1935. 8½″. Pp. viii + 145. 9*s.*

BAGGE (G.), LUNDBERG (E.) and SVENNILSON (I.). Wages, Cost of Living and National Income in Sweden, 1860–1930. Vol. II. Wages in Sweden. Part II. London: P. S. King & Son, 1935. 8½″. Pp. xix + 393.

BEACH (W. EDWARDS). British International Gold Movements and Banking Policy, 1881–1913. Cambridge, Massachusetts: Harvard University Press, 1935. 9″. Pp. xiv + 218. 10*s.* 6*d.*

BHARGAVA (B.). Indigenous Banking in Ancient and Medieval India. Bombay: D. B. Taraporevala Sons & Co., 1935. 9″. Pp. vii + 313. Rs. 10.

BIRNIE (ARTHUR). An Economic History of the British Isles. London: Methuen & Co., 1935. 8¾″. Pp. ix + 391. 10*s.* 6*d.*

BRIFFAULT (R.). Breakdown: the Collapse of Traditional Civilisation. London: Gollancz, 1935. 7″. Pp. 288. 7*s.* 6*d.*

BRIGHT (JOANNA). Housewives and Downing Street. London: Ivor Nicholson & Watson, 1935. 8¾″. Pp. 92. 2*s.*

Britain in Depression—A Record of the Trade Depression since 1929. London: Pitman, 1935. 8½″. Pp. viii + 473. 10*s.* 6*d.*

BUER (M. C.). Economics for Beginners. London: Routledge, 1935. 7″. Pp. xi + 267. 4*s.* 6*d.*

BURTON (J. H.). Rates and Taxes. Why Pay too Much? London: P. S. King & Son, 1935. 8½″. Pp. viii + 140. 3*s.* 6*d.*

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CITY OF CHESTER. Abstract of Accounts Year ended 31st March, 1935. Chester: Taplin & Paddock, 1935. 10″. Pp. 238.

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DUTT (S. C.). Conflicting Tendencies in Indian Economic Thought. Calcutta: Ray-Chowdhury & Co., 1934. 9¾″. Rs. 5. Pp. vii + 225.

EDGEWORTH (Lt.-Col. K. E.). The Price Level. London: Allen & Unwin, 1935. 7½″. Pp. 165. 4*s.* 6*d.*

FISHER (A. G. B.). The Clash of Progress and Security. London: Macmillan, 1935. 8¾″. Pp. xiii + 234. 8*s.* 6*d.*

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HAZELL (S.). A Record of the First Hundred Years of the National Provident Institution, 1835–1935. Cambridge University Press, 1935. $7\frac{1}{2}''$. Pp. 98.

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JEWKES (J.) and GRAY (E. M.). Wages and Labour in the Lancashire Cotton Spinning Industry. Manchester University Press, 1935. 9″. Pp. xiv + 222. 8*s*. 6*d*.

KLINGENDER (F. D.). Clerical Labour in Britain. London: Martin Lawrence, 1935. $8\frac{3}{4}''$. Pp. xxii + 117. 3*s*. 6*d*.

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KRUTCH (J. W.). Was Europe a Success? London: Methuen, 1935. $7\frac{1}{2}''$. Pp. xvii + 116. 3*s*. 6*d*.

LASKI (H. J.), JENNINGS (IVOR) and ROBSON (W. A.) (Ed.). A Century of Municipal Progress, 1835–1935. London: Allen & Unwin, 1935. $9\frac{1}{2}''$. Pp. 511. 21*s*.

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MADDEN (J. T.) and NADLER (M.). The International Money Markets. London: Pitman, 1935. $9\frac{1}{4}''$. Pp. xiii + 548.

MARK (J.). Analysis of Usury. London: J. M. Dent, 1935. 8″. Pp. 128. 6*s*.

MARSH (L. C.). Employment Research. Toronto: Oxford University Press, 1935. 9″. Pp. viii + 344. 10*s*. 6*d*.

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ORWIN (C. S.) and DARKE (W. F.). Back to the Land. London: P. S. King & Son, 1935. $8\frac{1}{2}''$. Pp. viii + 93. 3*s*. 6*d*.

PARANAGUA (O.). Tariff Policy. Oxford University Press, 1935. $7\frac{1}{2}''$. Pp. 223. 6*s*.

PECK (H. W.). Economic Thought and its Institutional Background. London: Allen & Unwin, 1935. $8\frac{3}{4}''$. Pp. 379. 12*s*. 6*d*.

RAMACHANDRA RAO (P. R.). Decay of Indian Industries. Bombay: D. B. Taraporevala Sons & Co., 1935. $7\frac{1}{4}''$. Pp. xi + 150. Rs. 2.

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SHAH (K. T.). Lectures on the Consequences of Post-War Price Changes. University of Delhi, 1935. 9¾″. Pp. 251.

SHAW (W. A.). Select Tracts and Documents Illustrative of English Monetary History, 1626–1730. (Reprint.) London: George Harding, 1935. 9″. Pp. x + 214. 21*s.*

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The Agricultural Dilemma. Report of an Inquiry organised by Viscount Astor and B. Seebohm Rowntree. London: P. S. King & Son, 1935. 8¾″. Pp. xii + 101. 2*s.* 6*d.*

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VERINDER (F.). Land and Freedom. London: The Hogarth Press, 1935. 7½″. Pp. 199. 2*s.* 6*d.*

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BERNSTEIN (E. M.). Money and the Economic System. Chapel Hill: University of North Carolina Press, 1935. 8¾″. Pp. xi + 516. $3.00.

CHASE (STUART). Government in Business. New York: The Macmillan Co., 1935. 8″. Pp. 297. 8*s.* 6*d.*

DAVIS (H. T.) and NELSON (W. F. C.). Elements of Statistics. Principia Press. 10″. Pp. xi + 424. 17*s.* 6*d.*

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FILIPETTI (G.) and VAILE (R. S.). The Economic Effects of the N.R.A. Minneapolis: The University of Minnesota Press, 1935. 9¼″. Pp. 108. $1.50. (Paper.)

FITZGERALD (D. A.). Livestock under the A.A.A. Washington: The Brookings Institution, 1935. 8½″. Pp. xiii + 384. $2.50.

Government Control of the Economic Order. A Round-table Discussion. Minneapolis: The University of Minnesota Press. Pp. viii + 119. 8*s.* $1.75.

HOLTZCLAW (H. F.). The Principles of Marketing. New York: Crowell Company. 1935. 8¾″. Pp. viii + 694. $3.75.

MOULTON (H. G.). Income and Economic Progress. Washington D.C. The Brookings Institution, 1935. 8½″. Pp. 191. $2.00.

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